SAFETY DATA SHEET

SHELL GADUS S2 V220 00

Section 1. Identification

Product identifier : SHELL GADUS S2 V220 00

Cat. No. : 14790651, 16080803, 16080846

Container size : 10 ml, 100 ml

Other means of identification : Not available.

Product type : Solid.

Recommended use of the chemical and restrictions on use

Product use : Lubricating grease.

Area of application : Industrial applications, Professional applications.

Supplier's details : Struers ApS
Pederstrupvej 84
DK-2750 Ballerup

Telephone: +45 44 600 800

e-mail address of person responsible for this SDS : sdsquestions@struers.dk

Emergency telephone number (with hours of operation) : +45 44 600 800 (Only during office hours)

Section 2. Hazards identification

Classification of the substance or mixture : H317 SKIN SENSITISATION - Category 1

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H317 - May cause an allergic skin reaction.

Precautionary statements

Prevention : P280 - Wear protective gloves.
P261 - Avoid breathing dust.
P272 - Contaminated work clothing should not be allowed out of the workplace.

Response : P302 + P352 - IF ON SKIN: Wash with plenty of water.
P333 + P317 - If skin irritation or rash occurs: Get medical help.
P362 + P364 - Take off contaminated clothing and wash it before reuse.

Section 2. Hazards identification

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

Ingredient name	%	Identifiers
Naphthenic acids, bismuth salts	≥0.1 - ≤0.99	CAS: 85736-59-0
Naphthenic acids	≥0.1 - ≤0.99	CAS: 1338-24-5
Naphthenic acids, zinc salts, basic	≥0.1 - ≤0.49	CAS: 84418-50-8

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 4. First aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media : In case of fire, use water spray (fog), foam, dry chemical or CO_2.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remark : Not considered to be a product presenting a risk of explosion.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill : Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Absorb spill with inert material (e.g. dry sand or earth) and place in a chemical waste container.

Large spill : Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
Suitable: mild steel/polyethylene (PE)
Not suitable: polyvinyl chloride (PVC)

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

No exposure limit value known.

Biological exposure indices

No exposure indices known.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Recommended: Use eye protection according to EN 166.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Recommended: polyvinyl chloride (PVC), neoprene, nitrile rubber.
Breakthrough time: >480 minutes
thickness: >0.35 mm

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: Wear a respirator conforming to EN140 with type A/P2 filter or better.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Solid. [semi-solid]

Colour : Brown.

Odour : Hydrocarbon. [Slight]

Odour threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not available.

Boiling point or initial boiling point and boiling range : Not available.

Flash point : Not applicable.

Evaporation rate : Not available.

Flammability : Non-flammable but will burn on prolonged exposure to flame or high temperature.

Lower and upper explosion limit/flammability limit : Lower: 1%
Upper: 10%

Vapour pressure : <0.0005 kPa (<0.0037503 mm Hg) [calculated]

Relative vapour density : >1 [Air = 1] [calculated]

Relative density : 1

Density : 1 g/cm³ [15°C (59°F)]

Solubility(ies) :

Media	Result
water	Not soluble

Miscible with water : No.

Partition coefficient: n-octanol/water : >6 [(similar material)]

Auto-ignition temperature : >320°C (>608°F)

Decomposition temperature : Not available.

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not applicable.
Kinematic (40°C (104°F)): Not applicable.

Flow time (ISO 2431) : Not available.

Particle characteristics

Median particle size : Not available.

Other information

Physical/chemical properties comments : No additional information.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerisation will not occur.

Conditions to avoid : Keep away from heat and direct sunlight.

Incompatible materials : Reactive or incompatible with the following materials: oxidising materials.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	
SHELL GADUS S2 V220 00	**Rat - Oral - LD50** >5000 mg/kg - (similar material) **Rabbit - Dermal - LD50** >5000 mg/kg - (similar material)	
Naphthenic acids, bismuth salts	**Rat - Female - Oral - LD50** >2000 mg/kg	OECD 423 [Acute Oral toxicity - Acute Toxic Class Method]
Naphthenic acids	**Rat - Oral - LD50** 3 g/kg	Toxic effects: Behavioral - Food intake (animal) Gastrointestinal - Hypermotility, diarrhea Gastrointestinal - Other changes
Naphthenic acids, zinc salts, basic	**Rat - Female - Oral - LD50** >2000 mg/kg	OECD 423 [Acute Oral toxicity - Acute Toxic Class Method]

Conclusion/Summary[Product] : Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Conclusion/Summary[Product] : Slightly irritating to the skin. Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Conclusion/Summary[Product] : Not available.

Section 11. Toxicological information

Respiratory corrosion/irritation

Conclusion/Summary[Product] : Not available.

Respiratory or skin sensitization

Skin

Conclusion/Summary[Product] : Not available.

Respiratory

Conclusion/Summary[Product] : Not available.

Germ cell mutagenicity

Conclusion/Summary[Product] : No mutagenic effect.

Carcinogenicity

Conclusion/Summary[Product] : The mineral oils in the product contain < 3% DMSO extract (IP 346). Based on available data, the classification criteria are not met.

Reproductive toxicity

Conclusion/Summary[Product] : Not considered to be toxic to the reproductive system.

Specific target organ toxicity (single exposure)

Product/ingredient name	Result
Naphthenic acids	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure

Routes of entry anticipated: Dermal, Eyes.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : May cause an allergic skin reaction.

Section 11. Toxicological information

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Conclusion/Summary[Product] : Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Naphthenic acids, bismuth salts	2500	N/A	N/A	N/A	N/A
Naphthenic acids	3000	N/A	N/A	N/A	N/A
Naphthenic acids, zinc salts, basic	2500	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	
SHELL GADUS S2 V220 00	**Acute - LC50** Fish >100 mg/l - (similar material) [96 hours] **Acute - EC50** Daphnia >100 mg/l - (similar material) [48 hours] **Acute - EC50** Algae >100 mg/l - (similar material) [72 hours]	
Naphthenic acids, bismuth salts	**Acute - LC50 - Fresh water** Fish - *Pimephales promelas* 5.62 mg/l [96 hours]	OECD 203 [Fish, Acute Toxicity Test]
	Acute - NOEC - Fresh water Fish - *Pimephales promelas* 3.22 mg/l [96 hours]	OECD 203 [Fish, Acute Toxicity Test]
	Acute - EC50 - Fresh water Daphnia - *Daphnia magna* 20 mg/l [48 hours]	OECD 202 [Daphnia sp. Acute Immobilization Test and Reproduction Test]
	Acute - NOEC - Fresh water Daphnia - *Daphnia magna* 7.68 mg/l [48 hours]	OECD 202 [Daphnia sp. Acute Immobilization Test and Reproduction Test]
	Acute - EC50 - Fresh water Algae - *Raphidocelis subcapitata* 17.7 mg/l [72 hours]	OECD 201 [Alga, Growth Inhibition Test]
	Acute - NOEC - Fresh water Algae - *Raphidocelis subcapitata* 7.38 mg/l [72 hours]	OECD 201 [Alga, Growth Inhibition Test]
Naphthenic acids	**Acute - EC50 - Fresh water** Daphnia - *Daphnia magna* 20 mg/l [48 hours]	OECD 202 [Daphnia sp. Acute Immobilization Test and Reproduction Test]
	Acute - NOEC - Fresh water Fish - *Pimephales promelas* 3.22 mg/l [96 hours]	OECD 203 [Fish, Acute Toxicity Test]
	Acute - NOEC - Fresh water Algae - *Raphidocelis subcapitata* 7.38 mg/l [72 hours]	OECD 201 [Alga, Growth Inhibition Test]
	Acute - EC50 - Fresh water Algae - *Raphidocelis subcapitata* 17.7 mg/l [72 hours]	OECD 201 [Alga, Growth Inhibition Test]
	Chronic - NOEC - Fresh water Daphnia - *Daphnia magna* 4.1 mg/l [21 days]	OECD 211 [Daphnia Magna Reproduction Test]
	Acute - LC50 - Fresh water Fish - Bluegill - *Lepomis macrochirus* Weight: 2.5 to 3.9 g 2 ppm [96 hours]	Effect: Mortality

Section 12. Ecological information

Conclusion/Summary[Product] : Not available.

Persistence and degradability

Conclusion/Summary[Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
SHELL GADUS S2 V220 00	-	-	Not readily
Naphthenic acids, bismuth salts	-	-	Inherent
Naphthenic acids	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
SHELL GADUS S2 V220 00	>6	-	High
Naphthenic acids, zinc salts, basic	-	60960	High

Mobility in soil

Soil/water partition coefficient : Not available.

Other adverse effects

No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Section 14. Transport information

	UN	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Other information

History

Date of issue/Date of revision : 2026/03/20

Date of previous issue : 2025/01/13

Version : 1.04

Prepared by : Sphera Solutions

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
IMO = International Maritime Organization
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

Procedure used to derive the classification

Classification	Justification
SKIN SENSITISATION - Category 1	Calculation method

References : GHS - Globally Harmonised System of Classification and Labelling of Chemicals - Version : 9.
International transport regulations

Indicates information that has changed from previously issued version.

Notice to reader

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