

NSK GREASE PS2

Version: 2.0

Revision Date 23.05.2019

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : NSK GREASE PS2

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Raw material for chemical industry., Raw material for pharmaceutical industry., Raw material for the glass industry, Paint additive, Lubricating grease

Recommended restrictions on use : None known.

1.3 Details of the supplier of the safety data sheet

Company : NSK Ltd.
1-6-3, Ohsaki Shinagawa-ku, Tokyo, JAPAN

Telephone : +81-3-3779-7742
E-mail address : enquiry_my@nsk.com

1.4 Emergency telephone number

Emergency telephone number
(24hrs) : +81-3-3779-7742

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4, Oral H302: Harmful if swallowed.
Eye irritation, Category 2 H319: Causes serious eye irritation.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

NSK GREASE PS2

Version: 2.0

Revision Date 23.05.2019

Print Date 23.05.2019

Signal word	Warning	
Hazard statements	H302 H319	Harmful if swallowed. Causes serious eye irritation.
Precautionary statements	Prevention: P261 P280	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/ eye protection/ face protection.
	Response: P301 P330 P305 + P351 + P338	IF SWALLOWED: Rinse mouth. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.
	Disposal: P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

The information required is contained in this Safety Data Sheet.

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Information not relevant.

Components

Chemical Name	CAS-No. EC-No. Registration number	Concentration [%]
Base oil (Synthetic Hydrocarbon Oil, Synthetic Ester Oil)	68037-01-4 6022453-00	80 -90
Thickener (Lithium soap)	Proprietary	10 - 20
Additive (s)	Proprietary	< 5

NSK GREASE PS2

Version: 2.0

Revision Date 23.05.2019

Print Date 23.05.2019

For the full text of the H-Statements mentioned in this Section, see Section 16.
For the full text of the Notas mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	: First Aid responders should pay attention to self-protection and use the recommended protective clothing Move out of dangerous area. Take off contaminated clothing and shoes immediately. Keep warm and in a quiet place.
If inhaled	: Provide fresh air. If not breathing, give artificial respiration. Keep the victim calm and in a semi-upright position. If symptoms persist, call a physician.
In case of skin contact	: Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.
In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
If swallowed	: Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Discomfort

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.
For specialist advice physicians should contact the Poisons Information Service.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Dry sand
Dry powder
Carbon dioxide (CO₂)
Foam

NSK GREASE PS2

Version: 2.0

Revision Date 23.05.2019

Print Date 23.05.2019

Unsuitable extinguishing media : Do not use water. Water can be dangerous possibly leading to fire spread

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : May form toxic gases on heating or in case of fire.
Carbon monoxide
Carbon dioxide (CO₂)

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Ensure adequate ventilation.
Wear personal protective equipment.
Avoid contact with skin, eyes and clothing.
Do not breathe dust.
Knock down dust with water spray jet.
Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Use mechanical handling equipment.
Avoid dust formation.
Pick up and transfer to properly labelled containers.
Adequate disposal

6.4 Reference to other sections

See chapter 8 and 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.
Wear personal protective equipment.
Avoid dust formation.
Handle in accordance with good industrial hygiene and safety practice.
In general, emissions are controlled and prevented by implementing an appropriate management system, including regular informing and training workers.

NSK GREASE PS2

Version: 2.0

Revision Date 23.05.2019

Print Date 23.05.2019

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place.
Protect from moisture.

Advice on common storage : Do not store near acids.

7.3 Specific end use(s)

Specific use(s) : Raw material for chemical industry., Raw material for pharmaceutical industry.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

DNEL/DMEL
Lithium soap

: End Use: DNEL, Workers
Exposure routes: Skin contact
Potential health effects: Acute effects
Value: 100 mg/kg

End Use: DNEL, Workers
Exposure routes: Inhalation
Potential health effects: Acute effects
Value: 30 mg/m³

End Use: DNEL, Workers
Exposure routes: Skin contact
Potential health effects: Long-term exposure
Value: 64.3 mg/kg

End Use: DNEL, Workers
Exposure routes: Inhalation
Potential health effects: Long-term exposure
Value: 10 mg/m³

End Use: DNEL, Consumers
Exposure routes: Skin contact
Potential health effects: Acute effects
Value: 19.23 mg/kg

End Use: DNEL, Consumers
Exposure routes: Inhalation
Potential health effects: Acute effects
Value: 28.92 mg/m³

NSK GREASE PS2

Version: 2.0

Revision Date 23.05.2019

Print Date 23.05.2019

End Use: DNEL, Consumers
Exposure routes: Ingestion
Potential health effects: Long-term exposure
Value: 6.43 mg/kg

End Use: DNEL, Consumers
Exposure routes: Skin contact
Potential health effects: Long-term exposure
Value: 64.3 mg/kg

End Use: DNEL, Consumers
Exposure routes: Inhalation
Potential health effects: Long-term exposure
Value: 9.64 mg/m³

PNEC
Lithium soap

: Fresh water
Value: 9 mg/l

Fresh water sediment
Value: 35.2 mg/kg

Marine water
Value: 0.9 mg/l

Marine sediment
Value: 3.52 mg/kg

Soil
Value: 1.76 mg/kg

Behaviour in waste water treatment plants
Value: 122.2 mg/l

8.2 Exposure controls

Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

Personal protective equipment

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.

Recommended Filter type:
Half mask with a particle filter P2 (EN 143)

Hand protection : Glove material: Wear suitable gloves.
Protective gloves complying with EN 374.

: Glove material: Nitrile rubber
The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other.
The exact break through time can be obtained from the protective glove producer and this has to be observed.

NSK GREASE PS2

Version: 2.0

Revision Date 23.05.2019

Print Date 23.05.2019

	Protective gloves have to be replaced at the first sign of deterioration.
Eye protection	: Eye protection (EN 166) Tightly fitting safety goggles
Skin and body protection	: Chemical resistant protective clothing according to DIN EN 13034 (Type 6)
Hygiene measures	: Take off contaminated clothing and shoes immediately. Avoid contact with skin, eyes and clothing. Do not breathe dust. Keep away from food, drink and animal feedingstuffs. When using do not eat, drink or smoke. Wash hands before breaks and at the end of workday.
Protective measures	: Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower. Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

General advice	: Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.
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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	: Semi solid (paste)
Colour	: white
Odour	: Slight odour
Odour Threshold	: No data available
Flash point	: 215 °C (seta)
Ignition temperature	: No data available
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Flammability (solid, gas)	: No data available
Flammability of liquid	: No data available
Oxidizing properties	: No data available
Auto-ignition temperature	: No data available
Burning number	: 195 °C

NSK GREASE PS2

Version: 2.0

Revision Date 23.05.2019

Print Date 23.05.2019

Molecular weight	: No data available
pH	: Not applicable
Melting point/ range	: No data available
Boiling point/boiling range	: No data available
Sublimation point	: No data available
Vapour pressure	: No data available
Density	: 0.91(25°C) g/cm ³
Relative density	: No data available
Bulk density	: No data available
Water solubility	: Insoluble in water
Partition coefficient: n-octanol/water	: No data available
Solubility in other solvents	: No data available
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Flow time	: No data available
Impact sensitivity	: No data available
Relative vapour density	: No data available
Surface tension	: No data available
Evaporation rate	: No data available

9.2 Other information

Explosivity	: No explosion risk
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SECTION 10: Stability and reactivity

10.1 Reactivity

Risk of violent reaction.

NSK GREASE PS2

Version: 2.0

Revision Date 23.05.2019

Print Date 23.05.2019

10.2 Chemical stability

Stable

10.3 Possibility of hazardous reactions

Hazardous reactions : Not available.

10.4 Conditions to avoid

Conditions to avoid : Avoid contact with strong oxidant

10.5 Incompatible materials

Materials to avoid : Strong oxidant

10.6 Hazardous decomposition products

This material is expected to be stable under normal condition of use.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity
Lithium soap : LD50: 525 mg/kg
Species: Rat

Information taken from reference works and the literature.

NOAEL: 19,23 mg/kg bw/d
Epidemiological data

Acute inhalation toxicity
Lithium soap : LC50: > 2 mg/l
Exposure time: 4 h
Species: Rat, male and female
Method: OECD Test Guideline 403
GLP: yes
Limit Test

Acute dermal toxicity
Lithium soap : LD50 Dermal: > 3,000 mg/kg
Species: Rat
Method: OECD Test Guideline 402

Skin corrosion/irritation

Skin irritation : Species: Rabbit
Result: No skin irritation

NSK GREASE PS2

Version: 2.0

Revision Date 23.05.2019

Print Date 23.05.2019

Method: OECD Test Guideline 404
GLP: yes
May cause skin irritation in susceptible persons.
Industrial study 1988

Serious eye damage/eye irritation

Eye irritation : Species: Rabbit
Result: Irritating to eyes.
Method: OECD Test Guideline 405
GLP: yes
Causes serious eye irritation.
Industrial study 1988

Respiratory or skin sensitisation

Sensitisation : Buehler Test
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.
Method: OECD Test Guideline 406
GLP: yes
Industrial study 1993

Reproductive Toxicity/Development/Teratogenicity

Lithium soap : Two-generation study
Test Method:
OECD Test Guideline 416
Species: Rat
male and female
Application Route: Oral
General Toxicity Maternal:
NOAEL 15 mg/kg bw/d
Developmental Toxicity:
NOAEL 45 mg/kg bw/d
target organs: Liver, Kidney, Adrenal gland

Test Method:
OECD Test Guideline 414
Species: Rat
female
Application Route: Oral
General Toxicity Maternal:
NOAEL 30 mg/kg bw/d
Teratogenicity:
NOAEL > 90 mg/kg bw/d
The significance of these findings for humans is not certain.

Test Method:
OECD Test Guideline 414
Species: Rabbit
General Toxicity Maternal:

NSK GREASE PS2

Version: 2.0

Revision Date 23.05.2019

Print Date 23.05.2019

NOAEL 49.88 mg/kg bw/d
Teratogenicity:
NOAEL 79.8 mg/kg bw/d
Information taken from reference works and the literature.

Germ cell mutagenicity

Lithium soap

: In vitro Mammalian Cell Gene Mutation Test
with and without metabolic
activation Result: negative
Method: OECD Test Guideline
476 GLP: yes
Test substance: Read-across (Analogy)

Chromosome aberration test in vitro
Human lymphocytes
with and without metabolic
activation Result: negative
Method: OECD Test Guideline
473 GLP: yes
Test substance: Read-across (Analogy)

Ames test
with and without metabolic
activation Result: negative
Method: Mutagenicity (Escherichia coli - reverse mutation
assay)
GLP: yes
Test substance: Read-across (Analogy)

Target Organ Systemic Toxicant - Repeated exposure

Lithium soap

: Application Route: Oral
NOAEL: 6,43 mg/kg bw/d

Application Route: Skin
NOAEL: 64,3 mg/kg bw/d

Application Route: inhalation (dust/mist/fume)
NOAEL: 0.01 mg/l

Mutagenicity

Remarks

: Tests on bacterial or mammalian cell cultures did not show
mutagenic effects.

Toxicology Assessment

Acute effects

: Harmful if swallowed., Causes serious eye irritation.

NSK GREASE PS2

Version: 2.0

Revision Date 23.05.2019

Print Date 23.05.2019

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish
Lithium soap

: static test
LC50: 30.3 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
Method: OECD Test Guideline 203
GLP: yes
Industrial Study 1996

static test
NOEC: 19.1 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
Method: OECD Test Guideline 203
GLP: yes
Industrial Study 1996

semi-static test
NOEC: extrapolated 15.25 mg/l
Exposure time: 21 d
Species: Danio rerio (zebra fish)
Test substance: Read-across (Analogy)
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates

Lithium soap

: Immobilization EC50: 33 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 202
GLP: yes
Industrial Study 1997

Immobilization NOEC: 20 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 202
GLP: yes
Industrial Study 1997

Reproduction Test NOEC: 9 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test substance: Read-across (Analogy)
Method: OECD Test Guideline 211
GLP: yes

NSK GREASE PS2

Version: 2.0

Revision Date 23.05.2019

Print Date 23.05.2019

Toxicity to algae
Lithium soap

: Growth inhibition ErC50: > 400 mg/l
Exposure time: 72 h
Species: Desmodesmus subspicatus (green algae)
Method: OECD Test Guideline 201
GLP: yes
Industrial Study 2010

Growth inhibition EyC50: 123 mg/l
Exposure time: 72 h
Species: Desmodesmus subspicatus (green algae)
Method: OECD Test Guideline 201
GLP: yes
Industrial Study 2010

Growth inhibition NOEC: 50 mg/l
Exposure time: 72 h
Species: Desmodesmus subspicatus (green algae)
Method: OECD Test Guideline 201
GLP: yes
Industrial Study 2010

Toxicity to bacteria
Lithium soap

: Respiration inhibition
EC50: 278 mg/l
Exposure time: 3 h
Species: activated
sludge
Test substance: Read-across (Analogy)
Method: OECD Test Guideline 209
GLP: yes
Industrial Study 2004

12.2 Persistence and degradability

Biodegradability : The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Bioaccumulation : Bioaccumulation is unlikely.

12.4 Mobility in soil

Physico-chemical removability : No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Additional ecological information : slightly water endangering

NSK GREASE PS2

Version: 2.0

Revision Date 23.05.2019

Print Date 23.05.2019

: Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.
Contaminated packaging : Dispose of in accordance with local regulations.
Waste Code : Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

SECTION 14: Transport information

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

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

Code Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

Water contaminating class : None

Other regulations : The product is classified and labelled in accordance with EC directives or respective national laws. Regional or national implementations of GHS may not implement all hazard classes and categories.

NSK GREASE PS2

Version: 2.0

Revision Date 23.05.2019

Print Date 23.05.2019

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H319	Causes serious eye irritation.

Further information

The information provided is based on our current knowledge and experience and apply to the product as delivered. Regarding the product properties, these are not guaranteed. The delivery of this safety datasheet does not free the recipient of the product from his own responsibility to follow the relevant rules and regulations concerning this product.