MSDS: A4177_E71EEN

Date Prepared: 2017/10/27

Date Revised:

Product Name: ENEOS OW-20 SN/GF-5 DEXOS1

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: ENEOS OW-20 SN/GF-5 DEXOS1

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

Recommended use: General industrial application

1.3. Details of the supplier of the safety data sheet

Identification of the JX Nippon Oil & Energy USA Inc.

supplier:

Address: 20 N. Martingale., Suite 325, Schaumburg, IL 60173

Charge section: (TEL:+1-847-413-2188)

1.4. Emergency telephone number

Emergency telephone +1-847-413-2188

number: (Contact Available time: From 9:00 to 17:30 UTC-5)

2. Hazards identification

Classification according to Regulation (EC) No. 1272/2008 (CLP)

2.1. Classification of the substance or mixture

Hazard category Category

Flammable liquids

Acute toxicity (oral)

Acute toxicity (dermal)

Chronic hazards to the aquatic environment

No Classification

No Classification

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 (CLP)

Hazard pictograms: Not applicable

Signal word: Not applicable Hazard statement: Not applicable

Precautionary statements:

Prevention Do not handle until all safety precautions have been read and

understood. (P202)

Wear protective gloves/protective clothing/eye protection/face

protection. (P280)

Do not allow the eyes to become exposed to the product. Do not

swallow the product.

Wash hands thoroughly after handling.

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Do no eat, drink or smoke when using this product. (P270)

Response IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. (P301+P310)

IF SWALLOWED: rinse mouth. Do NOT induce vomiting. (P301+P330+P331)

If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician.

IF ON SKIN: Wash with plenty of soap and water. (P302+P352)

Storage The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight.

Containers that have been opened must be tightly sealed.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.

2.3. Other hazards

PBT or vPvB : Not applicable

3. Composition/information on ingredients

3.1. Substances

Not Applicable

3.2. Mixtures

Ingredients and Concentration

| Ingredient Name | Concentrationwt.% |
|-----------------|-------------------|
| Base 0il(s) | 80-90 |
| Additives | <20 |

4. First aid measures

4.1. Description of first aid measures

Inhalation:

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. (P304+P340)

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Cover the body with blankets to keep warm and quiet. If you feel

unwell, seek medical advice.

Skin contact: Immediately flush skin with large amounts of water.

Wash contaminated clothing before reuse. (P363)

If skin irritation occurs: Get medical advice/attention.

(P332+P313)

Eye contact: Rinse with clean water carefully for several minutes. Remove

> contact lenses if present and if removal is easy, then continue rinsing. Rinse for 15 minutes at a minimum and seek medical

attention.

Do not induce vomiting. Drink water. Call a physician or poison Ingestion:

control center immediately.

4.2. Most important symptoms and effects, both acute and delayed

No information for mixtures.

4.3. Indication of any immediate medical attention and special treatment needed

No information for mixtures.

5. Firefighting measures

5.1. Extinguishing media

Mist of loaded liquid, dry chemicals, carbon dioxide, fire foam, Suitable extinguishing media:

and dry sand are effective.

Extinguishing media to avoid: Use of straight stream of water can cause a risk of spreading

fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the

chemical:

In some cases of fire, may release irritant gases.

When burnt, may generate carbon monoxide and other toxic gases.

Fire fighting: Spray water to the surrounding facilities for cooling.

Keep unauthorized persons off the site of occurrence of fire and

the surroundings.

Even after extinction, cool containers thoroughly with plenty of

5.3. Advice for fire-fighters

Special protective equipment and precautions for fire fighters:

Wear fire/flame resistant/retardant clothing. (P283)

Fight fire from windward direction while wearing protective equipment. If contact with skin is expected, wear impervious

protective equipment and gloves.

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Use air-breathing apparatus and protective clothing whenever necessary.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency measures

Wear protective equipment when working.

Remove nearby potential ignition sources immediately.

When mist is generated, use respiratory equipment to prevent inhalation of mist.

Do not touch or walk through spillage.

Pay attention to the site of spillage, which is slippery.

6.2. Environmental precautions

Prevent spreading of oil spill with earth and sand, sandbags, or other proper materials and use care not to allow the oil spill to flow to street drains, sewer systems, and rivers.

At sea, install oil spill containment booms to prevent spreading of spills and absorb with absorption mat or other proper materials.

6.3. Methods and material for containment and cleaning up

In case of spillage in small quantity, collect spillage by absorbing with earth, sand, sawdust, waste, or other proper materials.

In case of spillage in large quantity, enclose with embankment to prevent spreading of spillage and collect spillage in empty containers to the extent possible.

In case of spillage, immediately inform the organizations concerned of the spillage to prevent possible accidents and spreading of spillage.

Remove nearby potential ignition sources immediately and make fire-extinguishing agents available. Remove spillage completely, and ventilate and clean the site and the surroundings.

6.4. Reference to other sections

See section 8 for type of protective equipment. See section 13 for instructions on disposal.

7. Handling and storage

7.1. Precautions for safe handling

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Technical measures: Keep away from any possible contact with sparks, open flames, and

high-temperature materials, and do not allow release of vapor

without justification.

Use pumps or other proper equipment for taking out from

containers. Do not siphon with your mouth using a tube. Do not

drink.

When mist is generated, use respiratory equipment to prevent

inhalation of mist.

In case of vapor/mist dispersion, install a closed system, local ventilation system, and/or other proper equipment for the sources

of vapor/mist generation.

Avoid rough handling of containers such as falling, dropping,

exposing to shock, and dragging.

Ventilation requirements:

Maintain adequate ventilation when handling indoors.

Precautions:

Wash hands and face thoroughly after handling.

Be careful with fire.

Precautions for safe

handling:

Avoid falling, dropping, exposing to shock, or dragging of

containers.

Wear protective gloves when opening containers to eliminate a

risk of hand injury.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions:

Store in a well ventilated, cool, dry, dark place, protecting from direct sunlight and keeping away from any potential ignition

sources and high-temperature materials.

Store tightly stopped after use to prevent possible contamination

with dust and moisture.

Preferably store locked up in a proper storage area.

Safety adequate container materials:

Use spill-proof containers that are free of damage/corrosion.

7.3. Specific end use(s)

General industrial application

8. Exposure controls/personal protection

8.1. Control parameters

| Ingredient Name | Japan Society for Occupational | ACGIH | |
|-----------------|-----------------------------------|----------|---------|
| | Occupational Exposure Limits | TLV-STEL | TLV-TWA |

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| Base 0il(s) | None established | None established | None established |
|-------------|--------------------|------------------|--------------------|
| | ppm, | ppm, | ppm, |
| | 3mg/m3(Mineral Oil | None | 5mg/m3(Mineral Oil |
| | Mist) | establishedmg/m3 | Mist) |

8.2. Exposure controls

Appropriate engineering In case of mist generation, enclose the source of mist

controls: generation, or install a ventilation system.

Install eye cleaning and body cleaning equipment near the

handling site.

Respiratory protection: Not needed under normal conditions, but wear a gas mask (against

organic gases) whenever required.

Hand protection: In case of prolonged or repeated exposure, wear oil-resistant

hand protection.

Eye/face protection: In case of exposure to splashes, wear ordinary type goggles.

Skin protection: In case of handling over a prolonged period of time or in case of

exposure to oil, wear oil-resistant, long-sleeved work clothing.

Hygiene measures: Take off contaminated clothing and wash thoroughly before reuse.

Wash hands thoroughly after handling.

Initial boiling point - End point No data

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid Form: Liquid Color: Yellow Odor: Slight odor Melting point/freezing Pour Point-39(℃)

point:

Initial boiling point and boiling range:

232(°C)Cleveland Open Cup Flash point:

Estimate 200-410 (°C) Auto-ignition

temperature:

Upper/lower flammability Explosion Limit (1-7%)

or explosive limits:

Vapour density: No data. $0.846(15^{\circ}\text{C})$ Density (g/cm3): Solubility: water: Insoluble.

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Partition coefficient: n-No data.

octanol/water:

Decomposition No data.

temperature:

Kinematic viscosity: $>20.5 \text{ (mm2/sec)} (40^{\circ}\text{C})$

10. Stability and reactivity

10.1. Reactivity

Not Reactive

10.2. Chemical stability

Stable when stored or preserved in a dark place at room temperature.

10.3. Possibility of hazardous reactions

Keep away from any possible contact with strong oxidizing agents.

10.4. Conditions to avoid

Contact with incompatible hazard substances

Prolonged heating, open flames, and ignition sources

10.5. Incompatible materials

Use care to keep away from any possible contact with halogens, strong acids, alkalis, and acidifying substances.

10.6. Hazardous decomposition products

When burnt, may release carbon monoxide and other gases.

11. Toxicological information

11.1. Information on toxicological effects

Product

Acute toxicity (oral): For mixtures, hazard category was identified based on

the classification criteria for mixtures.

Acute toxicity (dermal): For mixtures, hazard category was identified based on

the classification criteria for mixtures.

Acute toxicity (inhalation): For mixtures, hazard category was identified based on

the classification criteria for mixtures.

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Skin corrosion/irritation: For mixtures, hazard category was identified based on

the classification criteria for mixtures.

Serious eye damage/irritation: For mixtures, hazard category was identified based on

the classification criteria for mixtures.

Respiratory sensitization: For mixtures, hazard category was identified based on

the classification criteria for mixtures.

Skin sensitization: For mixtures, hazard category was identified based on

the classification criteria for mixtures.

Mutagenicity: For mixtures, hazard category was identified based on

the classification criteria for mixtures.

Carcinogenicity: For mixtures, hazard category was identified based on

the classification criteria for mixtures.

Reproductive toxicity: For mixtures, hazard category was identified based on

the classification criteria for mixtures.

Target organ effect/Single

exposure:

For mixtures, hazard category was identified based on

the classification criteria for mixtures.

Target organ effect/Multi

exposure:

For mixtures, hazard category was identified based on

the classification criteria for mixtures.

Respiratory toxic: For mixtures, hazard category was identified based on

the classification criteria for mixtures.

11.2. Other information

Product

No information for mixtures.

Ingredient
Base Oil(s)

Acute toxicity (oral): LD50:> 5000 mg/kg[rat]
Acute toxicity (dermal): LD50:> 2000 mg/kg[rabbit]
Acute toxicity (inhalation): LC50: 2.18 mg/L[rat]

Serious eye damage/irritation: Practically None

Skin sensitization: None Buehler method [guinea pig]

Mutagenicity: Ames Test:Negative Carcinogenicity: EU:Category 2: R45

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12. Ecological information

12.1. Toxicity

Ecotoxicity

Fish acute toxicity: For mixtures, hazard category was identified based on

the classification criteria for mixtures.

Base Oil(s) 96hLC50: > 5000 mg/L[Oncorhynchus mykiss]

Algae acute toxicity: For mixtures, hazard category was identified based on

the classification criteria for mixtures.

Fish chronic toxicity: For mixtures, hazard category was identified based on

the classification criteria for mixtures.

Algae chronic toxicity: For mixtures, hazard category was identified based on

the classification criteria for mixtures.

12.2. Persistence and degradability

Persistence and degradability: No information for mixtures.

12.3. Bioaccumulative potential

Bioaccumulative potential: No information for mixtures.

12.4. Mobility in soil

Mobility in soil: No information for mixtures.

12.5. Results of PBT and vPvB assessment

Not applicable

12.6. Other adverse effects

Other impact: No information for mixtures.

13. Disposal considerations

13.1. Waste treatment methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

Every customer/user of the product should dispose of industrial waste on its own responsibility, otherwise it must rely on a company authorized by prefectural governor for treating industrial waste or a local public body involved in the disposal of industrial waste for proper disposal.

Before disposal of used container, remove contents completely.

13.2. Other information

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No additional information

14. Transport information

14.1. UN Number:

IATA UN number: Not applicable
UN number: Not applicable

14.2. UN proper shipping name:

IATA Proper shipping name: Not applicable
IMDG Proper shipping name: Not applicable

14.3. Transport hazard class(es):

IATA UN classification: Not applicable IMDG UN classification: Not applicable

14.4. Packing group:

IATA Packing group: Not applicable
IMDG Packing group: Not applicable

14.5. Environmental hazards:

Marine pollutant: Not applicable

14.6. Special precautions for user:

Transport containers without causing any significant friction or

shaking.

14.7. Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code:

Not applicable

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance EU regulations

Australia(AICS): All components are listed or exempted. Canada(DSL): All components are listed or exempted.

China(IECSC): In the case where one or more components are not listed or, even if

listed, in the case of importing to the country or area concerned, an

application or notification is required.

EU(REACH): All components are listed or exempted.

Korea(KECL): All components are listed or exempted.

New Zealand(NZIoC): In the case where one or more components are not listed or, even if

listed, in the case of importing to the country or area concerned, an

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Philippines(PICCS): All components are listed or exempted.
Taiwan(TCSI): All components are listed or exempted.
USA(TSCA): All components are listed or exempted.

15.2. Chemical safety assessment

Not conducted

16. Other information

Disclaimer: We at JXTG Nippon Oil & Energy Corporation have prepared the copyrighted

Safety Data Sheet to provide reference information on the hazardous chemical product of interest for our customers/users to ensure secure and

safe handling.

We would like every customer/user of the product to refer to the information and understand the necessity of taking appropriate measures for the actual handling conditions on their own responsibilities for

optimum practical application of the product of interest.

Consequently, the Safety Data Sheet is not intended to guarantee the

safety of the product referenced to herein.