

MATERIAL SAFETY DATA SHEET

Date: May 29, 2006

MSDS identifier: 47782

Revision: 1

1. Product and company identification

Product name	ENEOS CVT Fluid
Use	Metal-belt Continuously Variable Transmission Fluid
Supplier	Nippon Oil (U.S.A.) Ltd. 3625 Del Amo Boulevard, Suite 385, CA 90503
Telephone	310-214-2050
Emergency telephone	310-214-2050 or 630-875-970
Manufacturer	Nippon Oil Corporation, Nishi Shimbashi 1-chome, Minato-ku, Tokyo, 105-8412 Japan

2. Hazards identification

Emergency overview	Red liquid, slight odour. Caution! - prolonged or repeated contact with skin may cause irritation in some cases.
Precautionary measures	Avoid breathing vapor and mist. Keep container closed. Avoid contact with eyes, skin, and clothing.
OSHA regulatory status	This material may be considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200) as it contains mineral oil with an occupational exposure limit (mineral oil mist – See section 8).
Potential health effects	
Inhalation:	Vapor or mist, in excess of permissible concentrations, or in unusually high concentrations generated from spraying, heating the material, or as from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness.
Skin:	May cause minimal skin irritation.
Eyes:	May cause minor irritation.
Ingestion:	May cause abdominal discomfort, nausea, or diarrhea.
Chronic properties:	If prolonged exposure occurs, nausea, headache, diarrhea, and physical discomfort. This material is listed as Group 3 (IARC; not classifiable as to its carcinogenicity to humans). See Section 11 for toxicological information.
Potential environmental effects	The product is an insoluble oil and may produce a visible sheen on water. See Section 12 for ecological information.

3. Composition/information on ingredients

Declarable components	Conc. (%)
None	
Other components	
Base oil	>80
Other additives	<20

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4. First-aid measures

Inhalation	Remove exposed person to fresh air if adverse effects (eg dizziness, drowsiness, or respiratory irritation) occur. Obtain medical attention for symptoms of difficulty in breathing.
Skin contact	Wash affected area with soap and water. Get medical attention if irritation occurs. Launder contaminated clothing before re-use.
Eye contact	In case of contact with eyes, irrigate with water for 15 minutes. Seek medical advice, especially if irritation occurs or symptoms persist.
Ingestion	If swallowed, wash out mouth thoroughly and give water to drink. Seek medical attention and show this safety data sheet. Do not induce vomiting, unless instructed by medical personnel.
Note to physicians	Give symptomatic treatment and supportive therapy.

5. Fire-fighting measures

Fire and explosive properties	The product is not flammable, but may burn if involved in a fire. The product does not have explosive properties.
Extinguishing media	Carbon dioxide, dry chemical and foam are recommended. Be aware that product will float on water. Water jets may spread fire, or cause splattering. Remove containers from fire or cool them with water.
Specific hazards	When burned, product may form smoke, and toxic fumes, gases or vapours.
Protection of firefighters	Fire fighters should wear an approved self-contained breathing apparatus and full protective clothing.

6. Accidental release measures

Personal precautions	Wear appropriate protective clothing (See Section 8), including respiratory protection, during removal of large spillages.
Containment and environmental precautions	Product is not classified as environmentally hazardous. Stop the source of leak or release. Prevent leakage into the drainage system by bunding, or diking with sand or other absorbent material.
Method for clean-up	Clean up spill as soon as possible, using appropriate techniques such as absorption with inert materials or pumping. Where feasible and appropriate, remove contaminated soil. Collect spill for disposal and place in suitable container for disposal in accordance with local and federal regulations. Wash contaminated surfaces with detergent. Follow

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prescribed procedures for responding to larger spills and reporting to appropriate authorities.

7. Handling and storage

Information for safe handling Avoid contact with skin and eyes. Wear protective clothing as in Section 8. Do not weld, heat or drill container. Maintain minimum feasible handling temperature. Water contamination should be avoided. Caution: do not use pressure to empty drum, or drum may rupture with explosive force. Emptied container may still contain material, which may ignite with explosive violence if heated sufficiently.

Storage Exposure to high temperatures should be avoided. Keep container closed when not in use.

8. Exposure controls/personal protection

Exposure guidelines When mists/aerosols can occur: ACGIH TLV (oil mist), 5 mg/m³; ACGIH STEL (oil mist), 10 mg/m³.

Engineering controls No special ventilation is usually necessary. Good general ventilation is recommended. However, if operating conditions create high airborne concentrations, appropriate local exhaust ventilation may be needed.

Personal protective equipment Avoid skin contact by wearing chemical resistant gloves (eg nitrile). Wear chemical safety goggles or face shield if splashing possible. Where more extensive contact may occur, wear suitable protective clothing (eg apron, sleeves, boots). Wear suitable respiratory protective equipment (breathing mask) if exposure to vapour is likely.

General hygiene Avoid contact with skin and eyes. Wash thoroughly after handling.

9. Physical and chemical properties

Appearance	Red liquid
Odour	Slight
Pour point	< -45 °C
Boiling range	No data available
Flash point (typical)	>175 °C (COC)
Explosive properties	None identified
Autoignition temperature	No data available
Vapour pressure	No data available
Density	0.855 g/cm ³ at 15 °C
Solubility: in water	Insoluble
Partition coefficient	No data available

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DMSO Extract (base oil) < 3% (IP 346)

10. Stability and reactivity

Chemical stability	Stable under recommended storage and handling conditions. No hazardous polymerisation.
Conditions to avoid	Avoid prolonged storage at high temperature.
Incompatible materials	Acids, oxidising agents, acids, halogens and halogenated compounds.
Hazardous decomposition products	Thermal decomposition may produce smoke, carbon monoxide, aldehydes and other products of incomplete combustion. Hydrogen sulfide and alkyl mercaptans and sulfides may also be released. Under combustion conditions, oxides of the following elements will also be formed: calcium, sulfur, and zinc.

11. Toxicological information

The product has not been tested for toxicological effects.

Acute toxicity	LD ₅₀ (oral) believed to be > 5000 mg/kg (practically non-toxic). LD ₅₀ (dermal) believed to be > 3000 mg/kg (practically non-toxic)
Corrosivity/irritation	No data available
Sensitisation	No data available
Repeated-dose toxicity	No data available
Mutagenicity/Carcinogenicity/Reproductive toxicity	This material is listed as Group 3 by IARC (not classifiable as to its carcinogenicity to humans). No data on other properties.

12. Ecological information

The product has not been tested for ecological effects.

Toxicity	No data available.
Mobility	The product is an insoluble liquid, and floats on water.
Persistence/degradability	No information available.
Bioaccumulation	No information available

13. Disposal considerations

Product is suitable for disposal by incineration or by an oil recycling facility. Disposal must be in accordance with current national and local regulations. Chemical residues generally count as special waste, and their disposal may be controlled through corresponding local, state or federal laws. Local regulations may be more stringent than national requirements. The hazards

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of the waste may differ from that of the product, and it is the responsibility of the waste generator to identify hazards and dispose wastes in compliance with applicable regulations.

14. Transport information

This product is not regulated by the Department of Transport (DOT).

15. Regulatory information

Regulatory status:

- US: TSCA: All components of this material are listed in the TSCA inventory. This product is classified as an oil under Section 311 of the Clean Water Act (40 CFR 110). Discharge that produces a visible sheen on either surface water, or in waterways/sewers which lead to surface water, must be reported.
CERCLA: This product is not subject to any special reporting under the requirements of the Comprehensive Environmental Response Compensation and Liability Act. Local reporting requirements may be in force.
Sara Title III: This product is not hazardous. The product contains no reportable ingredients above 1%.
- EU: All components of this material are listed on EINECS inventory.
Classification and labelling: not classified
- Canada: All components of this material are listed on the DSL inventory.
Australia: All components of this material are listed on the AICS inventory.
Korea: All components of this material are listed on the TCCL inventory.
Philippines: All components of this material are listed on the PICCS inventory.

16. Other information

This MSDS has been revised in all section(s) compared to previous versions.

References

1. Handbook of Toxic and Hazardous Chemicals and Carcinogens (2nd ed.)
2. Registry of Toxic Effects of Chemical Substances (NIOSH, 1983).

Disclaimer: Material safety data sheets are provided as reference information on the safe handling of hazardous or harmful materials to companies using such materials. When referring to this data sheet, companies should remember that they must take responsibility for implementing the proper measures for their own particular situations. This data sheet is not a guarantee of safety.