The Future of Energy, Resources and Materials
JX Nippon Oil & Energy

SAFETY DATA SHEET

MSDS: A4037-1015E31EEN
Date Prepared: 2010/07/01
Date Revised: 2013/10/15

Product Name: ENEOS ECO AT FLUID

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

Product Name:	ENEOS ECO AT FLUID
Identification of the supplier:	JX Nippon Oil & Energy USA Inc.
Address:	20 N. Martingale Rd., Suite 325, Schaumburg IL 60173
Charge section:	Lubricants Quality Assurance Group (TEL: 847-413-2188)

2. Hazards identification

hazard category	Category
Flammable liquids	No Classification
Acute toxicity (oral)	No Classification
Acute toxicity (dermal)	No Classification
Specific target organ systemic toxicity following single exposure	No Classification
Specific target organ systemic toxicity following repeated exposure	No Classification
Acute hazards to the aquatic environment	Category 3
Chronic hazards to the aquatic environment	Category 3

LABEL ELEMENTS

Precautionary pictograms: Not applicable

Signal word: Not applicable

Hazard Statement: Harmful to aquatic life
Harmful to aquatic life with long lasting effects

Precautionary Statements:

Prevention: Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.

Response: Avoid release to the environment.

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

3. Composition/information on ingredients

Substance/Mixture: Mixture

Ingredients and Concentration

Ingredient Name	Concentrationwt.%
Base Oil(s)	80-90
Additives	<20

4. First-aid measures

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Inhalation:	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. If skin irritation occurs : Get medical advice/attention.
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.
Ingestion:	Do not induce vomiting. Drink [one glass] [two glasses] of water. Call a physician [or poison control center] immediately.

5. Fire-fighting measures

Suitable Extinguishing Media:	Mist of loaded liquid, dry chemicals, carbon dioxide, fire foam, and dry sand are effective.
Extinguishing Media to Avoid:	Use of straight steam of water can cause a risk of spreading fire.
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 water.
Special protective equipment and precautions for fire fighters:	Wear fire/flame resistant/retardant clothing. Fight fire from windward direction while wearing protective equipment. If contact with skin is expected, wear impervious protective equipment and gloves. Use air-breathing apparatus and protective clothing whenever necessary.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	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.
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.

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

7. Handling and storage

Handling

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.

Storage

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.

8. Exposure controls/personal protection

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Appropriate engineering controls: In case of mist generation, enclose the source of mist generation, or install a ventilation system.
Install eye cleaning and body cleaning equipment near the handling site.

Control parameters

Ingredient Name	Japan Society for Occupational Occupational Exposure Limits	ACGIH TLV-STEL	ACGIH TLV-TWA
Base Oil(s)	None established ppm, 3mg/m3(Mineral Oil Mist)	None established ppm, None establishedmg/m3	None established ppm, 5mg/m3(Mineral Oil Mist)

Personal Protective Equipment

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.

9. Physical and chemical properties

Product

Physical state: Liquid
Form: Liquid
Color: Red
Odor: Slight odor
Melting point/freezing point: Pour Point-46(℃)
Initial boiling point and boiling range: Initial boiling point - End point No data
Flash point: 218(℃)Cleveland Open Cup
Auto-ignition temperature: Estimate200－410(℃)
Upper/lower flammability or explosive limits: Explosion Limit (1-7%)
Vapour density: No data.
Density(g/cm3): 0.850(15℃)
Solubility: water：Insoluble.
Partition coefficient: n-octanol/water: No data.
Decomposition temperature: No data.

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10. Stability and reactivity

Chemical stability:	Stable when stored or preserved in a dark place at room temperature.
Possibility of hazardous reactions:	Keep away from any possible contact with strong oxidizing agents.
Conditions to avoid:	Contact with incompatible hazard substances Prolonged heating, open flames, and ignition sources
Incompatible materials:	Use care to keep away from any possible contact with halogens, strong acids, alkalis, and acidifying substances.
Hazardous decomposition products:	When burnt, may release carbon monoxide and other gases.

11. Toxicological information

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.
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.

Ingredient
Base Oil(s)

Acute toxicity (oral):	LD50:≧ 5000 mg/kg[rat]
Acute toxicity (dermal):	LD50:≧ 5000 mg/kg[rat]
Acute toxicity (inhalation):	LC50:≧ 5 mg/kg[rat]
Serious eye damage/irritation:	Practically None [rabbit]
Skin sensitization:	None Buehler method [guinea pig]
Mutagenicity:	Ames Test:Negative

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Carcinogenicity:	EU:Category 1：R45 need not apply.(NOTE L is Applicable), IARC:3

12. Ecological information

Product

Ecotoxicity

Fish acute toxicity:	For mixtures, hazard category was identified based on the classification criteria for mixtures.
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.

Ingredient
Base Oil(s)

Ecotoxicity

Fish acute toxicity:	96hLC50:＞ 5000 mg/L[Oncorhynchus mykiss]
Daphnia acute toxicity:	48hEC50:＞ 1000 mg/L[Daphnia magna]

13. Disposal considerations

Disposal 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.

14. Transport information

IMDG	UN classification：	Not applicable
Specific security precaution and condition of transportation:		Transport containers without causing any significant friction or shaking.

15. Regulatory information

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

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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) :	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.
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 application or notification is required.
USA(TSCA) :	All components are listed or exempted.
Philippines(PICCS) :	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.
Taiwan :	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.

16. Other information

Disclaimer

We at JX 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.