MATERIAL SAFETY DATA SHEET

Note: Read and understand Material Safety Data Sheet before handling or disposing of product.

Issued date: 25 January 2008 MSDS No. 48795

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY IDENTIFICATION	**NIPPON OIL CORPORATION** 3-12, Nishi Shimbashi 1-chome, Minato-ku, Tokyo, 105-8412 Japan
EMERGENCY TELEPHONE NUMBER:	+81-3-3502-9168
TELEPHONE NUMBER FOR INFORMATION:	+81-3-3502-1111
FAX NUMBER FOR INFORMATION:	+81-3-3502-9365
PRODUCT NAME:	**ND11**
PRODUCT USE:	**Refrigeration oil**

SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPOSITION

Components	Amount(%)	Limit
Synthetic oil	> 95	
Additives	< 5	
Additives for refrigeration oil		2 mg/m^3 TWA-ACGIH (Butylated Hydroxytoluene #1)

Hazardous information

No carcinogens listed in OSHA, IARC, or NTP are used in this product.

#1 A component is considered hazardous according to ACGIH.
Because it carries the Threshold Limit Values (TLV) for Butylated Hydroxytoluene.

SECTION 3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Warning statement:

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.
Wash thoroughly after handling. Keep away from heat.

Potential health effect:

Eyes: May cause minor irritation.

Skin: May cause minimal skin irritation.

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.

Ingestion: May cause abdominal discomfort, nausea, or diarrhea.

Sensitization properties: Unknown

Chronic Properties: If prolonged exposure occurs, nausea, headache, diarrhea, and physical discomfort.

Other remarks: None

SECTION 4. FIRST AID MEASURES

Eyes:	Flush immediately with water for at least 15 minutes. Get immediate medical attention.
Skin:	Wash with soap and water. Get medical attention if irritation develops. Launder contaminated clothing before reuse.
Inhalation:	Remove exposed person to fresh air if adverse effects are observed.
Ingestion:	Do not make person vomit unless directed to do so by medical personnel.
Note to physician:	Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

Flash point (Typical), ℃	>200(COC)
Autoignition tempt., ℃	Not Determined.
Flammability limits:	Not Determined.
Extinguishing media:	CO_2, dry chemical, or foam.
Special fire fighting procedures:	Recommend wearing self-contained breathing apparatus. Water may cause splattering. Material will float on water.
Unusual fire & explosion hazards:	Toxic fumes, gases or vapors may evolve on burning.
Autoignition temperature:	Not determined.
Explosion data:	Material does not have explosive properties.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Procedures in Case of Accidental Release, Breakage or Leakage:
Stop the source of the leak or release. Clean up releases as soon as possible. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.

SECTION 7. HANDLING AND STORAGE

Do not weld, heat or drill container. Replace cap or bung. Emptied container still contains hazardous material which may ignite with explosive violence if heated sufficiently.
Minimum feasible handling temperatures should be maintained.
Periods of exposure to high temperatures should be minimized.
Water contamination should be avoided.
CAUTION: Do not use pressure to empty drum or drum may rupture with explosive force.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye Protection:	Chemical type goggles or face shield optional.
Skin Protection:	Avoid prolonged or frequently repeated skin contact by wearing impervious protective clothing including gloves.
Respiratory Protection:	Wear a breathing mask.
Ventilation:	No special ventilation is usually necessary. However, if operating conditions create high air borne concentrations of this material, special ventilation may be needed.

Other clothing and Equipment: No special clothing or equipment is usually necessary,
Work practices, hygienic practices: No information is available.
Other handling and storage requirements: No information is available.
Protective measures during maintenance of contaminated equipment: No Data Available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Odor		Slight odor
Appearance		Light yellow liquid
Boiling point	°C	No Data Available
Solubility		Insoluble in water
Density	@15°C, g/cm^3	0.98
Pour point	°C	-35
DMSO Extract (Base oil)	mass % (IP 346)	No Data Available

SECTION 10. STABILITY AND REACTIVITY

Stability: Stable
Conditions to Avoid: See the Handling and storage section for further details.
Incompatibility (materials to avoid): Acids. Oxidizing agents. Halogens and halogenated compounds.
Hazardous Polymerization: Will not occur
Thermal decomposition: 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 be formed: Calcium, Sulfur, Zinc.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Oral: No Data Available:
Dermal: No Data Available:
Carcinogen: No Data Available:

SECTION 12. ECOLOGICAL INFORMATION

Biodegradation: No Data Available
Environmental fate: This material is not expected to present any environmental problems other than those associated with oil spills.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:
Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

SECTION 14. TRANSPORT INFORMATION

The description shown may not apply to all shipping situations.

DOT Proper Shipping Name: Not applicable.
IMDG Proper Shipping Name: Not applicable.
ICAO Proper Shipping Name: Not applicable.
TDG Proper Shipping Name: Not applicable.
NFPA Proper name: Class 1.
UN Number: Not applicable.

SECTION 15. REGULATORY INFORMATION

The **U.S.TSCA** inventory:	All components of this material are on the US TSCA inventory.
The **EU EINECS** inventory:	Some components of this material are on the EINECS inventory. A component of this material is on the ELINCS inventory.
The **CANADA DSL** inventory:	Some components of this material are on the DSL inventory. A component of this material is on the NDSL inventory
The **AUSTRALIA AICS** inventory:	May require notification before sale in AUSTRALIA.
The **KOREA TCCL** inventory:	All components of this material are on the TCCL inventory.
The **PHILIPPINE PICCS** inventory:	May require notification before sale in PHILIPPINE.

SECTION 16. OTHER INFORMATION

None

References:

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

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.