MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product name: **General Purpose Viscosity Standards**
Alternate description/ brand: N2B
Product description: Hydrocarbon liquid mixture of n-decane and tetradecane or petroleum oil
Product code: 9727-G45
Intended use: Viscometer calibration standard

COMPANY IDENTIFICATION

Supplier: **Cannon Instrument Company**
2139 High Tech Road
State College, Pennsylvania 16803
Product Technical Information: (814) 353-8000
Product MSDS Information: (814) 353-8000

EMERGENCY TELEPHONE NUMBER:

24-Hour Transportation Emergency: (800) 255-3924 Domestic CHEM-TEL Inc.
24-Hour Health Emergency: +1 (813) 248-0585 Overseas CHEM-TEL Inc. (please call collect)

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

OSHA Hazardous Substance(s) or Complex Substance(s)

This product is hazardous as defined in 29 CFR1910.1200, based on the following:

OSHA HAZARD	COMPONENT
Combustible	Hydrocarbon liquid
Irritant	Hydrocarbon liquid
Ingestion (aspiration hazard)	Hydrocarbon liquid

This product is classified as an irritant based on the presence of:
n-decane, CAS# 124-18-5, <50%

SECTION 3 HAZARD IDENTIFICATION

EFFECTS OF OVEREXPOSURE:

Acute effects

Eye: Irritant

Skin: Irritant; can be absorbed through the skin

Inhalation: High vapor/aerosol concentrations (attainable at elevated temperatures) are irritating to the eyes and the respiratory tract, and may cause headaches, dizziness, anaesthesia, drowsiness, unconsciousness, and other central nervous system effects.

This substance is unlikely to present a significant inhalation hazard if used for the recommended purpose.

Oral: Low toxicity. Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause severe pulmonary injury, possibly progressing to death.

Prolonged/ repeated exposure effects

Chronic effects

None identified

Signs and symptoms of overexposure:

Irritation and/ or redness of eyes and skin

Medical conditions aggravated by exposure

None identified

NFPA HAZARD ID: Health: 1 Flammability: 2 Reactivity: 0
(National Fire Protection Association)

NOTE: This material should not be used for any other purpose than the intended use in Section 1

SECTION 4 FIRST AID MEASURES

INHALATION Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.

SKIN CONTACT Flush with large amounts of water; use soap if available. Remove grossly contaminated clothing, including shoes, and launder before reuse.

EYE CONTACT Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

INGESTION If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.

NOTE TO PHYSICIAN: Ingested material, if aspirated into the lungs, may cause chemical pneumonitis.

SECTION 5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate extinguishing media: Carbon dioxide, foam, dry chemical and water fog. Water can be used to cool fire exposed containers

FIRE FIGHTING

Fire fighting instructions: Use water spray to cool fire exposed surfaces and to protect personnel. Isolate "fuel" supply from fire. Use foam, dry chemical, or water spray to extinguish fire. Avoid spraying water directly into storage containers due to danger of boilover. This liquid is volatile and gives off invisible vapors. Either the liquid or vapor may settle in low areas or travel some distance

along the ground or surface to ignition sources where they may ignite or explode.

Unusual fire hazards: None identified

Hazardous combustion products: Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products

GENERAL HAZARD

Combustible Liquid can form combustible mixtures at temperatures at or above the flashpoint. Static Discharge: Material can accumulate static charges which can cause an incendiary electrical discharge. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of.

FLAMMABILITY PROPERTIES

Flash point °C (°F) [method]: >~65 ^{o}C (>~149 ^{o}F) [Open Cup]
Flammable limits (approx. Volume % in air): not determined
Autoignition temperature °C (°F): not determined

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES : Report spills/releases to appropriate authorities as required.

CONTAINMENT/ CLEANUP

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED:

LAND SPILL: Shut off source taking normal safety precautions. Take measures to minimize the effects on ground water. Recover by pumping (use an explosion proof or hand pump) or contain spilled material with sand or other suitable absorbent and remove mechanically into containers. If necessary, dispose of adsorbed residues as required by regulations (see Section 13.)

WATER SPILL: Confine the spill immediately with booms. Notify relevant authorities. Remove from the surface by skimming or with suitable absorbents

ENVIRONMENTAL PRECAUTIONS: Prevent material from entering sewers, water sources or low lying areas; advise the relevant authorities if it has, or if it contaminates soil/vegetation.

Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

PERSONAL PROTECTIVE EQUIPMENT FOR SPILLS

Eyes: Use proper protection ï safety glasses as a minimum

Skin: Washing at mealtime and end-of-shift is adequate

Inhalation: No respiratory protection should be needed for small spills. For large spills, use self-contained breathing apparatus or air-purifying respiratory protection according to established local/ site emergency response procedures.

Precautionary measures: Avoid eye contact. Use reasonable care

SECTION 7 HANDLING AND STORAGE

HANDLING

Keep container closed. Handle and open containers with care.

ELECTROSTATIC ACCUMULATION HAZARD

Yes, use proper bonding and/or grounding procedure. Additional information regarding safe handling of products with static accumulation potential can be ordered by contacting the American Petroleum Institute (API) for API Recommended Practice 2003, entitled "Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents" (American Petroleum Institute, 1220 L Street Northwest, Washington, DC 20005), or the National Fire Protection Association (NFPA) for NFPA 77 entitled "Static Electricity" (National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101).

STORAGE:

Keep containers closed when not in use. Do not store in open or unlabelled containers. Store in a cool, well ventilated place, away from strong oxidizing agents and combustible materials. Do not store near heat, sparks, flame or strong oxidants.

SPECIAL PRECAUTIONS

Prevent small spills and leakages to optimize housekeeping, minimize fire risk and avoid slip hazards.

EMPTY CONTAINER WARNING

Empty containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

STORAGE

Use reasonable care and store away from oxidizing materials

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

None established

ENGINEERING CONTROLS

The use of local exhaust ventilation is recommended to control process emissions near the source. Laboratory samples should be handled in a lab hood. Provide mechanical ventilation of confined spaces. See respiratory protection recommendations.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection:

Where concentrations in air may exceed the limits given in this Section and engineering, work practice or other means of exposure reduction are not adequate, NIOSH approved respirators

may be necessary to prevent overexposure by inhalation.

Hand Protection:

Where contact may occur, wear long sleeves, and chemical resistant gloves, protective clothing and footwear

Eye Protection:

Use proper protection ï safety glasses as a minimum. For open systems where contact is likely, wear safety glasses with side shields. Where contact may occur, wear safety glasses with side shields.

Specific Hygiene Measures:

Washing at mealtime and end-of-shift is usually adequate

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Cannon Instrument Company as indicated in Section 1 for additional data.

GENERAL INFORMATION

Physical state:	Liquid
Form:	Liquid
Color:	Clear colorless
Odor:	Characteristic petroleum odor
Odor threshold:	not available

IMPORTANT HEALTH, SAFETY AND ENVIRONMENTAL INFORMATION

Specific Gravity @ 60°F: Lighter than water
Bulk density g/cc: Not available
Density, kg/m^3 (lbs./gal.): Not available
Flash point °C (°F) [method]: >~65 °C (>~149 °F)
Flammable limits (approx. Volume % in air): not determined
Autoignition temperature °C (°F): not determined
Ignition temperature (polymers) °C (°F): not applicable
Boiling point/range °C (°F): not determined
Vapor density @ 101 kPa (air =1): Greater than air
Vapor pressure @ 20°C, kPa (mm Hg): not determined
Evaporation rate (n-butyl acetate =1): not determined
pH: not applicable
Log Pow (n-Octanol/water partition coefficient): not determined
Solubility in water (20 °C): negligible
Viscosity: See product specification

OTHER INFORMATION

Freezing point °C (°F):	not determined
Melting Point °C (°F):	not determined
Pour point °C (°F):	not determined
Molecular weight:	not determined
Hygroscopic:	no
Coefficient of thermal expansion:	not determined

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Extreme heat and high-energy sources of ignition.

MATERIALS TO AVOID: Halogens, molten sulfur, strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Product does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur

SECTION 11 TOXICOLOGICAL INFORMATION

No specific toxicology data on this products have been provided by the supplier(s)

SECTION 12 ECOLOGICAL INFORMATION

Environmental fate and distribution

No specific ecological data are available for this product. Please refer to Section 6 for information regarding accidental releases and Section 15 for regulatory reporting information

Air: No specific data are available

Water: No specific data are available

Soil: No specific data are available

Degradation: No specific data are available

Environmental effects

Toxicity to water organisms: No specific data are available

Toxicity to soil organisms: No specific data are available

Bioaccumulation: No specific data are available

Fate and effects in water treatment plants

No specific data are available

SECTION 13 DISPOSAL CONSIDERATIONS

Please refer to Sections 5, 6 and 15 for disposal and regulatory information

WASTE DISPOSAL : Product is suitable for burning in an enclosed, controlled burner for fuel value. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be

disposed of at an appropriate government waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

SECTION 14 TRANSPORT INFORMATION

Note: The information provided below may not apply to all shipping situations. Consult appropriate Dangerous Goods Regulations for additional requirements and mode-specific, material-specific, or quantity-specific shipping requirements.

United States Department of Transportation (US DOT):

UN/ID#	Proper Shipping Name	Class/Division	Hazard Label(s)	Packing Group
Not Regulated As A Hazardous Material Or Dangerous Good For This Mode of Transportation.				

International Air Transport Association (IATA):

UN/ID#	Proper Shipping Name	Class/Division	Hazard Label(s)	Packing Group
Not Regulated As A Hazardous Material Or Dangerous Good For This Mode of Transportation.				

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is classified as hazardous in accordance with OSHA 29 CFR 1910.1200. See section 2

NATIONAL CHEMICAL INVENTORY LISTING: This product, and/ or its constituents, is listed on the US EPA/ TSCA (Toxic Substances Control Act) Inventory

COMMUNITY RTK:

Chemical Name	CAS Number	Typical Value	Component TPQ	Product TPQ
Highly refined mineral oil	64742-54-7	0-50%	Not applicable	Not applicable
n-Decane	124-18-5	0-50%	Not applicable	Not applicable

Clean Water Act/Oil Pollution Act:

No specific information provided by the supplier(s) of this product

Section 304 CERCLA HAZARDOUS SUBSTANCES:

No specific information provided by the supplier(s) of this product

SARA (311/312) REPORTABLE HAZARD CATEGORIES:

Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories:

Irritant, fire hazard.

SARA (313) TOXIC RELEASE INVENTORY:

No specific information provided by the supplier(s) of this product

International chemical inventories and hazard classifications

This product and/ or its components are on the Canadian Domestic Substance List/ NDSL, or are otherwise in compliance with related regulations.

WHMIS Classifications (Canada):

This series of fluids is controlled under provisions of WHMIS because of the presence of n-decane:.

Classification of n-decane, as a pure substance:

CAS Registry Number: 124-18-5

WHMIS Classification:
B3 - Flammable and combustible material - Combustible liquid
D2B - Poisonous and infectious material - Other effects - Toxic

B3

D2B

WHMIS Health Effects Criteria met by this Chemical:
D2B - Skin irritation - toxic - other

WHMIS Ingredient Disclosure List:
Not included. Meets criteria for disclosure at 1% or greater.

This product and/ or its components are on EINECS (European Inventory of Existing Chemical Substances) and/ or ELINCS (European Library of Notified Chemical Substances), or is otherwise in conformance with related EU directives/ regulations.

EU Hazard Classification, risk and safety phrases (Europe):

Health risk assessments of highly refined mineral oils of the type contained in this product predominantly conclude that this product need not be classified as carcinogenic. However, regulatory requirements of the European Union dictate that mineral oil be classified as carcinogenic unless data collected according to the specified protocol (ñIP 346ò) is available. No such data are available for the mineral oil component of this product; therefore, it is required to be classified as follows:


T
Toxic

R45: May cause cancer
S45: In case of accident or if you feel unwell, seek medical advice immediately (show label where possible)

S53: Avoid exposure - obtain special instruction before use

SECTION 16 OTHER INFORMATION

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Revision Summary:

- **October 15, 2005 -- This MSDS has been fully reviewed and reformatted to conform to changes in standard format**
- **May 14, 2007: Added Canadian and European classification and labeling information, based on current regulations and/or recommendations from suppliers (see Section 15)**
- **February 5, 2008; This MSDS was revised to separate two formulations with distinct classification requirements in Canada and the European Union. This MSDS now applies only to N2B, and the MSDS for N2 has been reissued under the designation MSDS 35, which is not classified as carcinogenic in the European Union and not controlled in Canada under WHMIS. This MSDS was also updated to include an NFPA health code of "1", to reflect the irritant nature of the formulation, and to add Canadian WHMIS information on the n-decane as a controlled substance.**
- **March 6,2008: Updated and standardized format of Transport Information (see Section 14)**
- **March 3, 2011: Reviewed content. Updated NFPA Hazard ID of Hazard Identification (see Section 3). Updated Flammability Properties of Fire-Fighting Measures (see Section 5). Updated Important Health, Safety, and Environmental Information of Physical and Chemical Properties (see Section 9).**

NOTES: