

SAFETY DATA SHEET

To comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

TITRA-LUBE TBN TEST KIT

SECTION 1 – COMPANY IDENTIFICATION

Manufacturer: Dexsil Corporation
One Hamden Park Drive
Hamden, CT 06517

Emergency Telephone Number:
USA (800) 424-9300 (CHEMTREC)
INT'L (703) 527-3887

Telephone Number: (203) 288-3509

Email: info@dexsil.com

Product Description: The TITRA-LUBE TBN product line is a field test kit for quantitative determining Total Base Number in Industrial/Lubricating Oils.

SECTION 2 C HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Ampule 1 (white dot): Isooctane			
Flammable liquid 3;H225	Highly flammable liquid and vapor.	Narcotic effects 3;H336	May cause drowsiness or dizziness.
Aspiration hazard 1;H304	May be fatal if swallowed and enters airways.	Aquatic chronic 2;H410	Very toxic to aquatic life with long lasting effects.
Skin irritant 2;H315	causes skin irritation.		

Ampule 2 (black dot): Hydrochloric acid in isopropanol			
Flammable liquid 3;H225	Highly flammable liquid and vapor.	Eye irritant 2;H319	Causes serious eye irritation.
Corrosive 1;H290	May be corrosive to metals.	Narcotic effects 3;H336	May cause drowsiness or dizziness.

Ampule 3 (reddish orange): Ethanol			
Flammable liquid 2;H225	Highly flammable liquid and vapor.	Eye Irritant 2;H319	Causes serious eye irritation.

Aqueous solution: Sodium chloride in water			
No applicable GHS categories.			

Plastic syringe: Sodium hydroxide in water			
No applicable GHS categories.			

2.2. Label elements

Ampule 1 (white dot): Isooctane



Danger

H225 Highly flammable liquid and vapor.

H304 May be fatal if swallowed and enters airways

H315 Causes skin irritation.

H336 May cause drowsiness and dizziness.

H410 Very toxic to aquatic life with long lasting effects.

[Prevention]:

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical / ventilating / light / equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust / fume / gas / mist / vapors / spray.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves / eye protection / face protection.

[Response]:

P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.
P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P321 Specific treatment (see information on this label).
P332+313 If skin irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.
P391 Collect spillage.

[Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.
P405 Store locked up.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

Ampule 2 (black-dot \ Hydrochloric Acid with Isopropanol)



Danger

H225 Highly flammable liquid and vapor.
H290 May be corrosive to metals.
H319 Causes serious eye irritation.
H336 May cause drowsiness and dizziness.

[Prevention]:

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.
P233 Keep container tightly closed.
P234 Keep only in original container.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical / ventilating / light / equipment.
P242 Use non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust / fume / gas / mist / vapors / spray.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves / eye protection / face protection.

[Response]:

P303+361+353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rise skin with water/shower.
P304+340+312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor / physician if you feel unwell.

P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P337+313 If eye irritation persists: Get medical advice / attention.

P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

[Storage]:

P403+233 Store in a well-ventilated place. Keep container tightly closed.

P403+235 Store is a well-ventilated place

P405 Store locked up.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

Ampule 3 (reddish orange): Ethanol



Danger

H225 Highly flammable liquid and vapor.
H319 Causes serious eye irritation.

[Prevention]:

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical / ventilating / light / equipment.
P242 Use non-sparking tools.
P243 Take precautionary measures against static discharge.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves / eye protection / face protection.

[Response]:

P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present.: Get medical advice/attention.

P337+313 If eye irritation persists: Get medical advice/attention.

P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

[Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

Aqueous Solution: Sodium Chloride in water
No applicable GHS categories.

Plastic Syringe: Sodium hydroxide in water
No applicable GHS categories.

For additional information on toxicity, please refer to Section 11.

SECTION 3 C COMPOSITION/INFORMATION ON INGREDIENTS

The TITRA-LUBE TBN Test Kit consists of one test tube containing two ampules, one test tube containing one ampule and an aqueous solution, and a filled plastic syringe.

Component	Contents	CAS#	EC#	% liquid
Ampule 1 (white-dot)	isooctane	540-84-1	208-759-1	6.62%
Ampule 2 (black-dot)	Hydrochloric Acid	7647-01-0	231-595-7	0.03%
	in Isopropanol	67-63-0	200-661-7	5.74%
Ampule 3	Ethanol	64-17-5	200-578-6	3.10%
Aqueous Solution	Sodium Chloride	7647-14-5	231-598-3	14.99%
	in Water	7732-18-5	231-791-2	59.96%
Plastic Syringe	Sodium Hydroxide	1310-73-2	215-185-5	0.03%
	in Water	7732-18-5	231-791-2	9.53%
				100.00%

SECTION 4 C FIRST AID MEASURES

First Aid

In case of contact with reagents, rinse well with water. In case of inhalation, remove to fresh air.

Eye Contact

For all kit components, flush eyes with large amounts of water for 15 minutes. Seek medical attention.

Skin contact

Flush with large amounts of water. Use soap and water to wash away organic components.

Inhalation

In case of inhalation, remove to fresh air.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

SECTION 5 – FIRE AND EXPLOSION HAZARD

Flash Point	Isooctane	10°F	-12.2°C
	Isopropanol	53°F	11.7°C
	Ethanol	48°F	8.9°C
	Aqueous Solution	None	None
	Plastic Syringe	None	None

Flammable Limit Unknown

Extinguishing Media Dry chemical, foam, CO₂

Special Fire Fighting Procedures None

SECTION 6 C ACCIDENTAL RELEASE MEASURES

Personal Protection Chemical safety glasses and rubber gloves

Spills and Leaks *Ampule 1 – Isooctane Ampule*
Solvent absorbent recommended for spills. Wash spill area after material pickup.

Ampule 2 – Hydrochloric Acid/Isopropanol Ampule
Absorb completely and dispose of as organic waste.

Ampule 3 – Ethanol Ampule
Solvent absorbent recommended for spills. Flush area with water.

Plastic Syringe – Sodium Hydroxide
Flush area with water and neutralize with dilute acid. Absorb completely.

SECTION 7 C HANDLING AND STORAGE

Protective equipment Wear appropriate safety equipment when performing the test on site.

Storage Store test kits in a cool, dry place. Check expiration date prior to performing test.

SECTION 8 C EXPOSURE CONTROLS/ PERSONAL PROTECTIVE EQUIPMENT

Engineering Controls None required

Personal Protective Equipment (PPE)

Respiratory protection None required during normal use.

Ventilation Perform test only in a well-ventilated area.

Protective gloves Always wear rubber gloves when performing the TITRA-LUBE TBN test.

Eye protection Wear safety glasses.

General Hygiene Measures Avoid contact with skin, eyes and clothing. Wash after running tests.

SECTION 9 – PHYSICAL/CHEMICAL CHARACTERISTICS

<i>Property</i>	<i>Ampule 1</i>	<i>Ampule 2</i>	<i>Ampule 3</i>	<i>Aq. Sol=n</i>	<i>Plastic Syringe</i>
Boiling Pt. °C	99	82.4	78	110	100
Vapor Pressure mm Hg @ 21°C	41	32	44	18	18
Solubility in Water	<0.1%	miscible	miscible	complete	miscible
Specific Gravity	0.69	0.79	0.79	1.15	1.05
Percent Volatile	100	99	99	none	none
Evaporation Rate Butyl Acetate =1	N/A	1.4	2.7	N/A	N/A
Appearance	colorless	colorless	red-orange	colorless	colorless
Odor	faint	mild	pleasant	none	none

N/A = Not Available

SECTION 10 C REACTIVITY DATA

Chemical Stability All components are stable under recommended storage conditions.

Conditions to Avoid Keep from strong oxidizers.

Hazardous Decomposition Productions Solutions are stable.

Hazardous Polymerization Will not occur.

SECTION 11 C TOXICOLOGICAL INFORMATION

Carcinogenicity

NTP: No IARC: No Z List: No OSHA Reg: No

Toxicity Data

<u>Component</u>	<u>Contents</u>	<u>TLV/(PEL)</u>
<i>Ampule 1 (white-dot)</i>	Isooctane	N/A
<i>Ampule 2 (black-dot)</i>	[Hydrochloric Acid] in Isopropanol	[5 ppm/(5 ppm)] 980 mg/m ³ /(980 mg/m ³)
<i>Ampule 3</i>	Ethanol	1900 mg/m ³ /(1900 mg/m ³)
<i>Aqueous Sol=n</i>	[Sodium Chloride] in water	[N/A]
<i>Plastic Syringe</i>	[Sodium Hydroxide] in water	[2 mg/m ³ /(2 mg/m ³)]

SECTION 12 C ECOLOGICAL INFORMATION

Ethanol: Ecotoxicity: Fish: Rainbow trout: LC50 = 12900-15300 mg/L; 96 Hr; Flow-through @ 24-24.3°C Fish: Rainbow trout: LC50 = 11200 mg/L; 24 Hr; Fingerling (Unspecified) Bacteria: Phytobacterium phosphoreum: EC50 = 34900 mg/L; 5-30 min; Microtox test When spilled on land it is apt to volatilize, biodegrade, and leach into the ground water, but no data on the rates of these processes could be found. Its fate in ground water is unknown. When released into water it will volatilize and probably biodegrade. It would not be expected to adsorb to sediment or bioconcentrate in fish.

Isopropanol: Ecotoxicity: Fish: Fathead Minnow: >1000 ppm; 96h; LC50 Daphnia: >1000 ppm; 96h; LC50 Fish: Gold orfe: 8970-9280 ppm; 48h; LC50 IPA has a high biochemical oxygen demand and a potential to cause oxygen depletion in aqueous systems, a low potential to affect aquatic organisms, a low potential to affect secondary waste treatment microbial metabolism, a low potential to affect the germination of some plants, a high potential to biodegrade (low persistence) with unacclimated microorganisms from activated sludge.

SECTION 13 C DISPOSAL CONSIDERATIONS

Test Tube 1

Contains reacted oil sample and solvent. Dispose of as an organic waste in accordance with all applicable federal, state and local environmental regulations.

Test Tube 2

Contains aqueous solutions and excess sodium hydroxide. Dispose of as a basic solution in accordance with all applicable federal, state and local environmental regulations.

SECTION 14 C TRANSPORTATION INFORMATION

DOT

Proper Shipping Name: None
Non-Hazardous for Transport: As originally packaged by Dexsil Corporation, packaging conforms to conditions and limitations specified in 49 CFR 173.4b Deminimis Exceptions.

IATA

Proper Shipping Name: Dangerous Goods in Excepted Quantities
IATA UN Numbers: 1219, 1987, 1262
Hazard Class: 3
Packing Group: II

SECTION 15 C REGULATORY INFORMATION

United States Regulatory Information

SARA Listed: Ethanol/methanol is identified on SARA Sec. 313.
TSCA Inventory Items: Ethanol/methanol.
CERCLA Listed: Ethanol/ methanol.
EINECS: Components of this product are on the European Inventory of Existing Commercial Chemical Substances.

SECTION 16 C OTHER INFORMATION

The information in this Material Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) and the Canadian WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the precautions and danger of these chemicals for his or her particular application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes.

Exposure to this product may have serious adverse health effects. These chemicals may interact with other substances. Since the potential uses are so varied, Dexsil cannot warn of all of the potential dangers of use or interaction with other chemicals or materials. Dexsil warrants that the chemicals meet the specifications set forth on the label.

DEXSIL DISCLAIMS ANY OTHER WARRANTIES; EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, IT'S MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

The user should recognize that this product can cause severe injury and even death, especially if improperly handled or the known dangers of use are not heeded. READ ALL PRECAUTIONARY INFORMATION. As new documented general safety information becomes available, Dexsil will periodically revise this Material Safety Data Sheet. CHEMTREC emergency telephone number is to be used ONLY in the event of CHEMICAL EMERGENCIES involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to the Customer Service Dept. at 1-203-288-3509.

For additional information, contact Dexsil.

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