Safety Data Sheet

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No 830/2015

Revision 2, Replaces Rev. 1 Revised: March 2019

TITRA-LUBE TAN TEST KIT

SECTION 1: Identification of the substance/mixture and the company/undertaking

1.1. Product identifier

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

This product is a mixture. For identification of the individual components, see section 3.

1.2. Relevant identified uses of the substance or mixture and uses against

This product contains prepackaged reagents for the determination of Total Base Number (TBN) in industrial and lubricating oils.

1.3. Details of the supplier of the safety data sheet

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

Telephone Number: *(203) 288-3509*
Email: info@dexsil.com

Importer: ETI Umwelttechnik AG
Kalchbuhlstrasse 18
7007 Chur, Switzerland

Telephone Number: (081) 253 54 54
Email: info@eti-swiss.com

1.4. Emergency telephone number

USA (800) 424-9300 (CHEMTREC) SWITZERLAND (435) 08 20 11

Section 2: 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 (blue dot): Potassium hydroxide in isopropanol			
Flammable liquid 3;H225	Highly flammable liquid and vapor.	Eye irritant 2;H319	Causes serious eye irritation.
Skin irritant 2;H315	Causes skin irritation.	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: Hydrochloric acid in water		
Corrosive 1;H290	May be corrosive to metals.	

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 (blue-dot): Potassium Hydroxide in Isopropanol

Danger

H225 Highly flammable liquid and vapor.

H315 Causes skin irritation.

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.

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]:

P302+352 IF ON SKIN: Wash with plenty of soap and water.

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

P332+313 If skin irritation occurs: Get medical advice/attention.

P337+313 If eye irritation persists: 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.

[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 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: Hydrochloric Acid in Water

Warning

H290 May be corrosive to metals.

[Prevention]:

P234 Keep only in original container.

[Response]:

P390 Absorb spillage to prevent material damage.

[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.

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

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1% or higher.

Section 3: Composition/information on ingredients

3.2. Mixtures

The TITRA-LUBE TAN 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[1]	540-84-1	208-759-1	6.57%
Ampule 2 (blue-dot)	Potassium Hydroxide[1]	1310-58-3	215-181-3	0.01%
	in Isopropanol[1]	67-63-0	200-661-7	6.53%
Ampule 3	Ethanol[1]	64-17-5	200-578-6	3.07%
Aqueous Solution	Sodium Chloride	7647-14-5	231-598-3	14.87%
	in Water	7732-18-5	231-791-2	59.47%
Plastic Syringe	Hydrochloric Acid[1]	7647-01-0	231-595-7	0.01%
	in Water	7732-18-5	231-791-2	9.47%
				100.00%

[1]A REACH registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

Section 4: First aid measures

4.1. Description of 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.

4.2. Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3. Indication of any immediate medical attention and special treatment needed

No data available.

Section 5: Firefighting measures

5.1. Extinguishing media

Extinguishing Media Use Dry chemical, foam, CO_2.

Special Fire Fighting Procedures NONE.

5.2. Special hazards arising from the substance or mixture

No data available

5.3. Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4. Further information

No data available

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment incl., chemical safety glasses and rubber gloves. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations.

6.2. Environmental precautions

Keep out of drains and surface water.

6.3. Methods for material containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

Section 7: Handling and storage

7.1. Precautions for safe handling

Wear appropriate safety equipment when performing the test on site.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2, no other specific uses are stipulated.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Components with work place control parameters

Component	MAK	TWA	STEL
Isopropyl alcohol	200 ppm; 500 mg/m^3	400 ppm; 999 mg/m3	400 ppm; 1000 mg/m3
Isooctane	200 ppm; 2400 mg/m3 (Octane)	500 ppm; 2350 mg/m3 (Octane).	375 ppm; 1800 mg/m3
Ethanol	500 ppm; 960 mg/m^3	1000 ppm; 1900 mg/m3	1000 ppm
Hydrochloric acid	3.0 mg/m^3	5 ppm (8 hr); 8 mg/m3 (8 hr)	10 ppm 15 min; 15 mg/m3 15 min

8.2. Exposure controls

Engineering Controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the work day.

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 test.

Eye protection Wear safety glasses.

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

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Property	*Ampule 1*	*Ampule 2*	*Ampule 3*	*Aq. Sol=n*	*Plastic Syringe*
Boiling Pt.^{o}C	99	82.4	78	110	100
Vapor Pressure mm Hg @ 21^{o}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: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

All components are stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Solutions are stable.

10.4. Conditions to avoid

Heat, flames, and sparks. Keep from strong oxidizers.

10.5. Incompatible materials

Oxidizing agents

10.6. Hazardous decomposition products

No data available.

Section 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Ampule 1 (Isooctane): LD50 Oral - Rat - > 5.000 mg/kg (OECD Test Guideline 401)
LC50 Inhalation - Rat - 4 h - > 33,52 mg/l (OECD Test Guideline 403)
LD50 Dermal - Rabbit - > 2.000 mg/kg (OECD Test Guideline 402)

Ampule 2 (Isopropanol): LD50 Oral - Rat - 5.045 mg/kg
LC50 Inhalation - Rat - 8 h - 16000 ppm
LD50 Dermal - Rabbit - 12.800 mg/kg

Ampule 3 (Ethanol): Oral Rat LD50:7060 mg/kg
Rat LC50 Inhalation:124700 mg/m3/4H

Skin corrosion/irritation

No data available.

Serious eye damage/eye irritation

No data available.

Respiratory or skin sensitisation

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Ampule 3 (Ethanol) - Reproductive toxicity - Human - female - Oral
Effects on Newborn: Apgar score (human only).
Effects on Newborn: Other neonatal measures or effects.
Effects on Newborn: Drug dependence.

Specific target organ toxicity - single exposure

Ampule 1 (Isooctane) – May cause drowsiness or dizziness
Ampule 2 (Isopropanol) – Narcotic effects
Ampule 3 (Ethanol) - No data available.

Specific target organ toxicity - repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

None

Section 12: Ecological information

12.1. Toxicity

Ampule 2 (Isopropanol): Ecotoxicity: Fish: Fathead Minnow: >1000 ppm; 96h; LC50Daphnia: >1000 ppm; 96h; LC50Fish: Gold orfe: 8970-9280 ppm; 48h; LC50IPA 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.

Ampule 2 (Potassium Hydroxide): Ecotoxicity in water (LC50): 80 mg/l 24 hours [Mosquito Fish].

Ampule 3 (Ethanol): Ecotoxicity: Fish: Rainbow trout: LC50 = 12900-15300 mg/L; 96 Hr; Flow-through @ 24-24.3°CFish: 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.

12.2. Persistence and degradability
No data available

12.3. Bioaccumulative potential
No data available

12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0,1% or higher.

12.6. Other adverse effects
Ampule 1 (Isooctane) – Very toxic to aquatic life with long lasting effects.

Section 13: Disposal considerations

13.1. Waste treatment methods

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 hydrochloric acid. Dispose of as an acidic solution in accordance with all applicable federal, state and local environmental regulations.

Section 14: Transportation information

14.1. UN number

Ampule 1 (Isooctane)

ADR/RID: 1262	IMDG: 1262	IATA: 1262

Ampule 2 (Isopropanol)

ADR/RID: 1219	IMDG: 1219	IATA: 1219

Ampule 3 (ethanol)

ADR/RID: 1170	IMDG: 1170	IATA: 1170

14.2. UN proper shipping name

None

When packaged in 40 kit boxes the hazardous materials qualify as ***de minimis*** quantities

When packaged in 80 kit boxes they must be shipped as Dangerous Goods in Excepted Quantities

14.3. Transport hazard class(es)

ADR/RID: 3	IMDG: 3	IATA: 3

14.4. Packing group

ADR/RID: II	IMDG: II	IATA: II

14.5. Environmental hazards

ADR/RID: Yes (Isooctane)	IMDG: Marine Pollutant: Yes (Isooctane)	IATA: No

14.6. Special precautions for user
None

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
The cargo is not intended to be carried in bulk.

Section 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:
This SDS complies with the requirements of Regulation (EC) No. 1907/2006

Inventory Component	CAS	EU EINECS	EU ELNICS
Isooctane	540-84-1	--	--
Isopropanol	67-63-0	Yes	No
Ethanol	64-17-5	Yes	No

Swiss Regulatory Information:

Federal Act on Protection against Dangerous Substances and Preparations (Chemicals Act, ChemA) of 15 December 2000 (Status as of 13 June 2006) SR 813.1

Ordinance on Protection against Dangerous Substances and Preparations (Chemicals Ordinance, ChemO) of 18 May 2005 (Status as of 15 July 2014) 813.11

Ordinance on the Reduction of Risks relating to the Use of Certain Particularly Dangerous Substances, Preparations and Articles (Chemical Risk Reduction Ordinance, ORRChem) of 18 May 2005 (Status as of 1 January 2014) SR 814.81

Federal Act on the Protection of the Environment (Environmental Protection Act, EPA) of 7 October 1983 (Status as of 1 July 2014) 814.01

Fifth Ordinance on the federal Act about Work (Occupational Safety For The Youth) ArGV 5 of 28 September 2007 (Status as of 1 August 2014) SR 822.115.2

Ordinance from the department of Economy, Education and Research on dangerous and difficult chores during pregnancy and maternity (Maternity Protection Ordinance) of 20 March 2001 (Status as of 1 January 2013) SR 822.111.52

Ordinance from the department of Environment, Traffic, Energy and Communications about Lists on the traffic of waste of 18 October 2005 (Status as of 1 January 2010) SR 814.610.1

Federal Act on Work in Industry, Trade and Commerce (Federal Act on Work) of 13 March 1964 (Status as of 1 December 2013)

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

Section 16: Other information

The information in this Safety Data Sheet meets the requirements of Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No 830/2015. 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 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.

For additional information, contact Dexsil.