SAFETY DATA SHEET

According to the Hazard Communication Standard, 29 CFR 1910.1200

SDS # : 083530

KLEENKOTE DT 4

Date of the previous version: 2015-10-13 **Revision Date:** *2017-01-30* **Version** *2*

1. IDENTIFICATION

Product identifier

Product name KLEENKOTE DT 4

Other means of identification

Product Code(s) 083530

Number R2I
Substance/mixture Mixture

Recommended use of the chemical and restrictions on use

Identified uses Lubricant. for. Industrial applications .

Uses advised against Do not use for any purpose other than the one for which it is intended

Details of the supplier of the safety data sheet

Supplier Address
TOTAL Specialties USA Inc
1201 Louisiana Street, Suite 1800
Houston, TX 77002
Phone: +1 800 323 3198

Contact Point Technical/ HSEQ

E-mail Address USRMLIN-info@total.com

Emergency telephone number
Company Phone Number +1 (908) 862-9300
Emergency telephone +1 866 928 0789 (24h/24, 7d/7)
+1 215 207 0061 (24h/24, 7d/7)

2. HAZARDS IDENTIFICATION

Classification

Gases under pressure - Liquefied gas
Serious eye damage/eye irritation - Category 2

Label elements

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WARNING

Hazard Statements
Contains gas under pressure; may explode if heated
Causes serious eye irritation

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Wear eye/face protection

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Precautionary Statements - Storage
Protect from sunlight. Store in a well-ventilated place

Unknown Acute Toxicity
No information available

Hazards not otherwise classified (HNOC)
None known

Other information

Physical-Chemical Properties Aerosol: Pressurised container. This product contains a flammable component.

Properties Affecting Health Inhalation of vapors in high concentration may cause shortness of breath (lung edema).

Environmental properties Should not be released into the environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical Name	CAS-No	Weight %
1,1,1,2-tetrafluoroethane	811-97-2	40-50
ETHANOL	64-17-5	30-42

** The exact percentage (concentration) of composition has been withheld as a trade secret*

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4. FIRST AID MEASURES

First aid measures for different exposure routes

General advice	IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. Rinse immediately with plenty of water and seek medical advice. Keep eye wide open while rinsing.
Skin contact	Remove contaminated clothing and shoes. Wash off with soap and water. Wash contaminated clothing before reuse.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Remove from exposure, lie down. Move to fresh air. Oxygen or artificial respiration if needed. Consult a physician. Inhalation of high concentrations of vapor or aerosols may cause irritation of the upper respiratory tract.
Ingestion	Do not ingest. If swallowed then seek immediate medical assistance.

Most important symptoms/effects, acute and delayed

Skin contact	May be harmful in contact with skin. Prolonged skin contact may defat the skin and produce dermatitis. Not classified.
Eye contact	Causes serious eye irritation. If the liquid is splashed into the eye, it can cause reversible irritation and damage.
Inhalation	Avoid breathing vapors or mists. Harmful by inhalation. Toxic by inhalation. Vapors inhaled in strong concentration have a narcotic effect on the central nervous system. Vapors may cause drowsiness and dizziness. May cause pulmonary edema. Not classified.
Ingestion	Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Symptoms	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Foam. Carbon dioxide (CO_2). ABC powder.
Uniform Fire Code	Aerosols: Level III
Unsuitable Extinguishing Media	Do not use a solid water stream as it may scatter and spread fire.
Special Hazard	Incomplete combustion and thermolysis may produce gases of varying toxicity such as

carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration.

Explosion Data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters In the event of fire and/or explosion do not breathe fumes. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate non-essential personnel.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

General Information Avoid contact with eyes. Avoid breathing vapors or mists. Do not touch or walk through spilled material.

Other information See Section 12 for additional information.

Environmental precautions

General Information Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained. Try to prevent the material from entering drains or water courses. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for cleaning up Contents under pressure. Do not puncture or incinerate cans. Do not stick pin or any other sharp object into opening on top of can. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Keep away from open flames, hot surfaces and sources of ignition. Ensure adequate ventilation. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. When using, do not eat, drink or smoke. For personal protection see section 8. Use only in well-ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 122 °F. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects.

Hygiene measures When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Use personal protective equipment as required. Avoid breathing vapors, mist or gas. Do not use abrasives, solvents or fuels. Do not dry hands with rags that have been contaminated with product. Do not put product contaminated rags into workwear pockets.

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Wash hands with water as a precaution. Do not wash off with:. Fuel. Solvent. Abrasive. Regular cleaning of equipment, work area and clothing is recommended. Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. Wash hands before breaks and at the end of workday. Avoid extended and repeated contact with the skin as this may cause skin conditions, which may also be aggravated by minor injuries or by contact with soiled clothing. Avoid prolonged and repeated contact with the skin, especially with used or waste product.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep away from food, drink and animal feedingstuffs. Keep in a bunded area. Keep preferably in the original container. Otherwise reproduce all indication of the regulation label on the new container. Do not remove the hazard labels of the containers (even if they are empty). Design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts. Protect from frost, heat and sunlight. Protect from moisture. Keep at temperatures below 40°C. Store in original container.

Materials to Avoid

Strong oxidizing agents. Sensitivity to heat, friction or shock cannot be assessed in advance.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ETHANOL 64-17-5	STEL 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m³	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m³

Exposure controls

Engineering Measures

Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Individual protection measures, such as personal protective equipment

General Information

Protective engineering solutions should be implemented and in use before personal protective equipment is considered.

Eye/face protection

If splashes are likely to occur, wear:. Safety glasses with side-shields.

Skin and body protection

Wear suitable protective clothing. Protective shoes or boots.

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Hand Protection Protective gloves.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Use personal protective equipment as required. Avoid breathing vapors, mist or gas. Do not use abrasives, solvents or fuels. Do not dry hands with rags that have been contaminated with product. Do not put product contaminated rags into workwear pockets. Wash hands with water as a precaution. Do not wash off with:. Fuel. Solvent. Abrasive. Regular cleaning of equipment, work area and clothing is recommended. Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. Wash hands before breaks and at the end of workday. Avoid extended and repeated contact with the skin as this may cause skin conditions, which may also be aggravated by minor injuries or by contact with soiled clothing. Avoid prolonged and repeated contact with the skin, especially with used or waste product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties

Color		black	
Physical State @20°C		Aerosol	
Odor		Characteristic	
Odor Threshold		No information available	
Property	**Values**	**Remarks**	**Method**
pH	6.8	@ 25 °C	
Melting point/range		Not applicable	
Boiling point/boiling range		Not applicable	
Flash point	-	Not flammable	
Evaporation rate		No information available	
Flammability Limits in Air		No information available	
upper	-	Not applicable	
Lower	-	Not applicable	
Vapor Pressure	< 2000 hPa	@ -10 °C	
Vapor density		No information available	
Relative density	0.72	@ 25 °C	
Density	0.72 g/cm3	@ 25 °C	
Water solubility		Miscible	
Solubility in other solvents		Soluble in water Alcohols	

logPow	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	Not applicable
Explosive properties	Risk of explosion if heated under confinement
Oxidizing Properties	This product is not considered oxidising based on chemical structure considerations
Possibility of hazardous reactions	See section 10
Other information	
Freezing Point	No information available
Note	• Please refer to Technical Data Sheet for further information

10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Risk of explosion if heated under confinement. None under normal processing.
Conditions to Avoid	Heat, flames and sparks. Take precautionary measures against static discharges. Heat (temperatures above flash point), sparks, ignition points, flames, static electricity. Strong oxidizing agents.
Incompatible materials	Strong oxidizing agents. Sensitivity to heat, friction or shock cannot be assessed in advance.
Hazardous Decomposition Products	Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principle Routes of Exposure	Inhalation, Ingestion, Eye contact, Skin contact.
Symptoms	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
Skin contact	May be harmful in contact with skin. Prolonged skin contact may defat the skin and produce dermatitis. Not classified.
Eye contact	Causes serious eye irritation. If the liquid is splashed into the eye, it can cause reversible irritation and damage.
Inhalation	Avoid breathing vapors or mists. Harmful by inhalation. Toxic by inhalation. Vapors inhaled in strong concentration have a narcotic effect on the central nervous system. Vapors may cause drowsiness and dizziness. May cause pulmonary edema. Not classified.
Ingestion	Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

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Acute toxicity - Product Information

Product Information Product does not present an acute toxicity hazard based on known or supplied information.

Oral
ATEmix (oral) 6865 mg/kg

Dermal
ATEmix (dermal) 7541 mg/kg

Inhalation
ATEmix (inhalation-dust/mist) 8 mg/l
ATEmix (inhalation-vapor) 26 mg/l

Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
1,1,1,2-tetrafluoroethane 811-97-2			LCLo (4h) >= 567000 ppm (rat - OECD 403)
ETHANOL 64-17-5	LD50 10470 mg/kg (Rat)	LD50 15800 mg/kg (Rabbit)	LC50 30000 mg/m³

Sensitization No sensitization responses were observed.
Carcinogenicity Ethanol has been shown to be carcinogenic in long-term studies only when consumed as alcoholic beverage. The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
ETHANOL 64-17-5	A3	1		X

ACGIH: (American Conference of Governmental Industrial Hygienists) A3 - Animal Carcinogen
IARC: (International Agency for Research on Cancer) Group 1 - Carcinogenic to Humans
OSHA: (Occupational Safety & Health Administration) X - Present

Mutagenicity This product is not classified as mutagenic.
Reproductive toxicity This product does not present any known or suspected reproductive hazards.
Aspiration Hazard Not classified.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Acute aquatic toxicity - Product Information

No experimental data available

Acute aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and	Toxicity to

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			other aquatic invertebrates	microorganisms
1,1,1,2-tetrafluoroethane 811-97-2	EC50 (96h) 142 mg/l (Green algae)	LC50 (24h) 560 mg/l (Oncorhynchus mykiss) LC50 (48h) 450 mg/l (Oncorhynchus mykiss) LC50 (72h) 450 mg/l (Oncorhynchus mykiss) LC50 (96h) 450 mg/l (Oncorhynchus mykiss)	EC50 (24h) 960 mg/l (Daphnia magna) EC50 (48h) 980 mg/l (Daphnia magna)	
ETHANOL 64-17-5	EC50 (72h) 275 mg/l Chlorella vugaris (OECD 201)	LC50 (96h) 14200 mg/l Pimephales Promelas (EPA)	EC50 (48h) 5012 mg/l Ceriodaphnia dubia (ASTM E729-80)	EC50 = 34634 mg/L 30 min EC50 = 35470 mg/L 5 min

Chronic aquatic toxicity - Product Information

No experimental data available

Chronic aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Toxicity to microorganisms
ETHANOL 64-17-5		NOEC (10d) 9.6 mg/l Ceriodaphnia dubia	NOEC (30d) 245 mg/l (ECOSAR)	

Effects on terrestrial organisms No experimental data available .

Persistence and degradability

General Information No information available.

Bioaccumulative potential

Product Information No information available.

logPow No information available

Component Information .

Chemical Name	log Pow
ETHANOL 64-17-5	-0.35

Mobility

General Information No information available.

Soil No information available

Water It may contaminate ground water. Will likely be mobile in the environment due to its water solubilty

Other adverse effects

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General Information No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment

Waste Disposal Methods Dispose of in accordance with local regulations.

Contaminated packaging Dispose of in accordance with local regulations.

California Hazardous Waste Codes 221

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
ETHANOL 64-17-5	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT

UN/ID No	UN1950
Proper shipping name	AEROSOLS
Hazard class	2.2
Description	UN1950, AEROSOLS, 2.2
Emergency Response Guide Number	126

TDG

UN/ID No	UN1950
Proper shipping name	AEROSOLS
Hazard class	2.2
Subsidiary Class	2.2
Special Provisions	80
Description	UN1950, AEROSOLS, 2.2

MEX

UN/ID No	UN1950
Proper shipping name	AEROSOLS
Hazard class	2
Special Provisions	190, 277, 327, 344, 63
Description	UN1950, AEROSOLS, 2

ICAO/IATA

UN/ID No	UN1950

Proper shipping name	Aerosols, non-flammable
Hazard class	2.2
Subsidiary hazard class	2.2
Special Provisions	A145, A167, A98, A802
Description	UN1950, Aerosols, non-flammable, 2.2
Excepted Quantity	E0
Limited quantity	30 kg G

IMDG/IMO

UN/ID No	UN1950
Proper shipping name	Aerosols
Hazard class	2
EmS No.	F-D, S-U
Special Provisions	63,190, 277, 327, 344, 959
Description	UN1950, Aerosols, 2
Excepted Quantity	E0
Limited quantity	See SP277

ADR/RID

UN/ID No	UN1950
Proper shipping name	AEROSOLS
Hazard class	2
Classification Code	5A
Tunnel Restriction Code	(E)
Special Provisions	327, 625, 344, 190
Description	UN1950, AEROSOLS, 2.2, (E)

ADN

UN/ID No	UN1950
Proper shipping name	AEROSOLS
Hazard class	2
Classification Code	5A
Special Provisions	190, 327, 344, 625
Description	UN1950, AEROSOLS, 2.2
Hazard Labels	2.2
Limited quantity	1 L
Ventilation	VE04

15. REGULATORY INFORMATION

International Inventories

All the substances contained in this product are listed or exempted from listing in the following inventories:
U.S.A. (TSCA)
Canada (DSL/NDSL)
Australia (AICS)
Philippines (PICCS)
New Zealand (NZIoC)
China (IECSC)
Korea (KECL)
Taiwan (TCSI)

U.S. Federal Regulations

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SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:

Chemical Name	Weight %	California Prop. 65
ETHANOL - 64-17-5	30-42	Carcinogen Developmental

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois
ETHANOL 64-17-5	X	X	X	
Graphite 7782-42-5	X	X	X	

16. OTHER INFORMATION

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NFPA	**Health Hazard** 2	**Flammability** 2	**Instability** 0	**Physical and chemical hazards** -
HMIS	**Health Hazard** 2	**Flammability** 2	**Physical Hazard** 0	**Personal protection** X

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)
Hazards are split into categories each with a 0 to 4 rating, 0 meaning no hazard and 4 meaning high hazard

Revision Date: 2017-01-30
Revision Note *** Indicates updated section
Abbreviations, acronyms
ACGIH = American Conference of Governmental Industrial Hygienists
bw = body weight
bw/day = body weight/day
EC x = Effect Concentration associated with x% response
GLP = Good Laboratory Practice
IARC = International Agency for Research of Cancer
LC50 = 50% Lethal concentration - Concentration of a chemical in air or a chemical in water which causes the death of 50% (one half) of a group of test animals
LD50 = 50% Lethal Dose - Chemical amount, given at once, which causes the death of 50% (one half) of a group of test animals
LL = Lethal Loading
NIOSH = National Institute of Occupational Safety and Health
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
NOEL = No Observed Effect Level
OECD = Organization for Economic Co-operation and Development
OSHA = Occupational Safety and Health Administration
UVCB = Substance of unknown or Variable composition, Complex reaction products or Biological material
Legend
Section 8
ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH - National Institute for Occupational Safety and Health
TLV - Threshold Limit Values
PEL - Permissible Exposure Limits
IDHL - Immediately Dangerous to Life or Health concentrations
TWA - Time Weight Average
STEL - Short Term Exposure Limits
S* - Skin notation
TSCA - Toxic Substance Control Act

End of the Safety Data Sheet