



TRICAN MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION			
Product Name	TS-1	Code	
Supplier	Trican Well Service Ltd. 2900, 645 – 7 th Ave S.W. Calgary, Alberta, T2P 4G8 For Product Information/MSDS Call: 403-266-0202 or 403-723-3688 (8:00 AM – 5:00 PM MST, Monday – Friday)	Revision Date	May 5, 2010
Product Uses	Work-over Fluid	Supersedes Date	April 15, 2007
24 Hour Emergency Numbers	CANUTEC 613-996-6666 (Canada 24 hours)	Original Creation	January 28, 2002
WHMIS (Pictograms)		WHMIS (Classification)	
 		B2 Flammable Liquid D2A Very Toxic material causing other toxic effects D2B Toxic materials causing other toxic effects	

SECTION 2. HAZARDS IDENTIFICATION	
Hazard Summary	FLAMMABLE. TOXIC. IRRITATING. Severe eye irritant. Moderate skin irritant. Some components can be absorbed through skin. Vapours may irritate respiratory tract. Vapours are toxic on inhalation. Contains components that are toxic to central nervous system, liver, kidneys, blood-forming organs. Contains components that are considered carcinogenic, embryotoxic and mutagenic. Avoid excessive heat, open flames, sparks and ignition sources. Avoid breathing vapours or mists. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Avoid prolonged or repeated contact with skin. Wear suitable protective clothing, gloves and eye/face protection. Provide eyewash in work area.
Routes of Exposure	Eyes, skin, inhalation and ingestion.
Potential Acute Health Effects	
Eyes Contact	Severe irritant. Direct liquid contact with eyes may cause severe eye irritation. Vapours or mists may cause eye irritation. Contact with heated material may cause thermal burns.
Skin Contact/Absorption	Moderate irritant. Repeated or prolonged contact may result in defatting, oil acne, redness, itching, inflammation, cracking and possible secondary infection. Contact with heated material may cause thermal burns. Some components are readily absorbed through the skin.
Inhalation	Moderately toxic. May cause respiratory tract irritation. May cause harmful central nervous system effects. Effects may include excitation, euphoria, headache, dizziness, drowsiness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death. May affect the liver and kidneys. Severe exposures may cause cardiac sensitization and irregular heart rhythm. Exposure to high concentrations of dense oil mists may lead to oil pneumonia.
Ingestion	May cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting and diarrhea. Aspiration into lungs may cause chemical pneumonitis. Exposure may cause central nervous system symptoms including CNS depression (narcosis) similar to those listed under "INHALATION" above.
Medical Conditions Aggravated by Exposure	Not available
<i>See also Toxicological Information (Section 11)</i>	
Additional Remarks	Not available

SECTION 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Name	CAS #	% (wt)
Complex mixture of aliphatic and aromatic petroleum hydrocarbons (C6 and greater)	mixture	100
Including:		
Benzene	71-43-2	<5
Toluene	108-88-3	<10
Ethyl benzene	100-41-4	<10
Xylenes	1330-20-7	<10

SECTION 4. FIRST AID MEASURES

Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Seek medical attention immediately after flushing.
Skin Contact	Wash thoroughly with soap and water for at least 15 minutes. Remove contaminated clothing immediately and launder before reuse. Discard saturated leather articles. Seek medical attention if irritation develops.
Inhalation	Remove person to fresh air. If not breathing, provide artificial respiration. If breathing is difficult or symptoms develop, seek prompt medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of material into lungs. Never give anything by mouth to an unconscious person. Seek medical attention immediately.
Notes to Physician	Gastric lavage should only be done after endotracheal intubation in view of the risk of aspiration which can cause serious chemical pneumonitis for which antibiotic and corticosteroid therapy may be indicated.
Additional Remarks	Not available

SECTION 5. FIRE FIGHTING MEASURES


Conditions of Flammability	Flammable liquid. When heated above the flashpoint, releases flammable vapours. When mixed with air and exposed to ignition source, vapours can burn in open or explode if confined. Vapours may be heavier than air. May travel long distances along the ground before ignition and flashing back to vapour source. Vapours may collect in low or confined areas creating fire or explosion hazard. Heat may build enough pressure to rupture closed containers/spreading fire/increasing risk of burns/injuries. Burning liquid may float on water.
Extinguishing Media	Use alcohol foam, CO ₂ , dry chemical or water fog. Do not use solid water stream as it may scatter material and spread the fire. Water spray may be used to cool containers exposed to fire conditions.
Protection of Firefighters	As in any fire, wear full fire fighting gear including NIOSH-approved positive pressure self-contained breathing apparatus.
Hazardous Combustion Products	Carbon monoxide, carbon dioxide and oxides of sulfur.
Sensitivity to Mechanical Impact	Not expected
Sensitivity to Static Discharge	This product is sensitive to static discharge. Bond and ground all containers before transferring material.
Additional Remarks	Care needs to be taken when opening drums or tank hatched to avoid exposing head spaces to ignition sources.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Eliminate all ignition sources. Isolate hazard area and restrict access. Try to work upwind of spill. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
Environmental Precautions	Prevent substance from entering natural bodies of water and sewer systems. Spilled product may pose a risk to the aquatic ecosystem if released.
Clean Up Methods	SMALL SPILLS: Stop leak if without risk. Move containers from spill area. Absorb with an inert material. Place residues in a suitable, covered, properly labeled container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. LARGE SPILLS: Stop leak if without risk. Move containers from spill area.

	Approach release from upwind. Dike spill area and do not allow product to reach sewage system or surface or ground water. Contain and collect spillage with noncombustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product.
Additional Remarks	Waste must be disposed of in accordance with federal, provincial and local environmental control regulations.

SECTION 7. HANDLING AND STORAGE	
Equipment	Locate eye wash in use area. Use a non-sparking or explosion-proof tools and equipment around this material.
Procedures	
Fire Prevention	Eliminate all ignition sources. Flammable vapours may form an ignitable mixture with air. Vapours may travel considerable distances from spill and flash back if ignited. Bond and ground equipment prior to transferring material. Take care when opening drums or tank hatched to avoid exposing head spaces to ignition sources. Empty containers may contain flammable product residue. Do NOT cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity or other sources of ignition.
Worker Contact	Wear appropriate personal protective equipment. Avoid contact with eyes, skin, and clothing. Avoid breathing vapours or mists. Use only with adequate ventilation. Maintain good personal hygiene. Do not smoke, eat or drink when handling this product. Wash thoroughly after handling product and before eating, drinking or smoking.
Storage Requirements	Store in a cool, well-ventilated area, away from incompatible materials. Keep container tightly closed when not in use.
Additional Remarks	Not available

SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION	
Exposure Guidelines / Limits	Not established for product.
Exposure Guideline / Limits for Components	
Benzene	ACGIH TLV: TWA 0.5 ppm ; STEL 2.5 ppm; absorbed through skin
Toluene	ACGIH TLV: TWA 20 ppm
Ethyl benzene	ACGIH TLV: TWA 100 ppm ; STEL 125 ppm
Xylenes	ACGIH TLV: TWA 100 ppm ; STEL 150 ppm
Please consult with local authorities for acceptable provincial exposure limits since values can vary from jurisdiction to jurisdiction.	
Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours or mists below their respective threshold limit value. Ensure that eyewash stations and safety showers are near the work location.
Personal Protection	
Personal Protective Equipment recommendations are based on anticipated known manufacturing and use conditions. These conditions are expected to result in only incidental exposure. A thorough review of the job tasks and conditions by a safety professional is recommended, however, to determine the level of person protective equipment appropriate for these job tasks and conditions.	
Respirator	Not normally required under expected conditions of handling. If product is heated or agitated such that inhalation of vapours or mist is possible, a respirator may be a required. A NIOSH-approved air-purifying mask equipped with organic vapour cartridges with P95 prefilters is recommended. In poorly ventilated areas or emergency situations use a NIOSH-approved atmosphere-supplying respirator.
Hands	Nitrile or neoprene gloves. Do not use natural rubber or PVC.
Eyes	Chemical safety goggles and face shield if product is handled in such a way that it may splash into eyes.
Body	Wear long sleeves and pants of an impervious material to prevent skin contact. Remove contaminated clothing and launder before reuse.
Feet	Steed toed, chemical resistant boots.
Other	Emergency eyewash fountains should be in the immediate vicinity of any potential exposure.
Protective Clothing (Pictograms)	
	

Additional Remarks	Not available
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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES	
Physical State	Liquid
Odour and Appearance	Hydrocarbon odour; yellow to brown in colour.
Odour Threshold	Not available
Specific Gravity	0.70-0.78 estimate.
Flashpoint	10 °C estimate
Upper Flammable Limit (% by volume)	Not available
Lower Flammable Limit (% by volume)	Not available
Autoignition Temperature	Not available
Vapour Density (air=1)	>1 (heavier than air)
Vapour Pressure	Not available
Evaporation Rate	Not available
Boiling Point	40 °C initial boiling point (estimate based on C6 hydrocarbons)
Freezing Point	Not available
pH	Not applicable
Viscosity	Not available
Solubility in Water	insoluble
Coefficient of Water/Oil	Not available
Additional Remarks	Not available


SECTION 10. STABILITY AND REACTIVITY DATA	
Chemical Stability	Stable under normal conditions of use.
Conditions of Instability	Not available
Incompatible Material	Strong oxidizing agents (strong acids, peroxides, chlorine, etc.)
Conditions of Reactivity	Excessive heat, sources of ignition, formation of oil mist.
Hazardous Decomposition Products	Oxides of carbon, oxides of sulfur, smoke on combustion.
Hazardous Polymerization	Will not occur
Additional Remarks	Not available

SECTION 11. TOXICOLOGICAL INFORMATION	
Acute Toxicity	LD50 and LC50 data not available for product.
Effects of Acute Exposure	<i>See Hazards Identification (Section 2)</i>
Effects of Chronic Exposure	Repeated or prolonged contact may result in defatting, oil acne, redness, itching, inflammation, cracking and possible secondary infection. May affect the central nervous system, liver, kidneys and eyes. Severe exposures may cause cardiac sensitization. The benzene component may cause blood effects (aplastic anemia).
Irritancy of Product	<i>See Hazards Identification (Section 2)</i>
Skin Sensitization	Not available
Respiratory Sensitization	Not available
Carcinogenicity	Benzene is a known human carcinogen that may cause leukemia (listed as IARC Group 1, ACGIH A1). Ethyl benzene is listed by IARC as Group 2B (possibly carcinogenic) and ACGIH as A3 (confirmed animal carcinogen with unknown relevance to humans).
Reproductive Toxicity	Toluene may cause reproductive effects in females.
Teratogenicity	Not available.
Embryotoxicity	Benzene crosses the placental barrier. Toluene and xylene may be toxic to embryo and related to loss of pregnancy.
Mutagenicity	Benzene is mutagenic in animal studies.
Synergistic Products/Effects	Other hydrocarbons, especially n-hexane.
Additional Remarks	Not available

SECTION 12. ECOLOGICAL INFORMATION	
Aquatic Toxicity	Not available
Degradability	Not available
Bioaccumulation	Not available
Mobility	Not available

Additional Remarks	Do not allow product or run-off from fire control to enter storm or sanitary sewers, lakes, rivers, streams or public waterways. Block off drains and ditches. May be harmful to aquatic life.
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SECTION 13. DISPOSAL CONSIDERATIONS	
Responsibility for proper waste disposal rests with the generator of the waste. Dispose of any waste material in accordance with all applicable federal, provincial and local regulations.	
Additional Remarks	Note that these regulations may also apply to empty containers, liners and rinsate. Processing, use, dilution or contamination of this product may cause its physical and chemical properties to change.

SECTION 14. TRANSPORT INFORMATION	
TDG Classification	PETROLEUM DISTILLATES, N.O.S. Class 3, UN1268, PG II
	
Marine Pollutant	Not available
Additional Transport Information	Not available
Emergency Response Guide	Guide No. 128

SECTION 15. REGULATORY INFORMATION	
Canadian Regulations	
WHMIS	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by the CPR.
Environmental Regulations	Not available.
DSL Inventory	All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.
TSCA Inventory Status	All components are included or are exempted from listing on the US Toxic Substances Control Act Inventory.
Other Regulatory Information	No further regulatory information is available.

SECTION 16. OTHER INFORMATION	
Other Special Considerations	Format change. Changes have been made to information in Sections 1, 2, 3, 9, 11 and 14. Composition has changed. WHMIS classification has changed. TDG classification has changed.
Trican Well Service Ltd. Disclaimer	
<p><i>NOTE: The information on this MSDS is based on data which is considered to be accurate. Trican Well Service Ltd., however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.</i></p> <p><i>The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.</i></p> <p><i>This MSDS was prepared and is to be used for this product. If the product is used as a component n another product, this MSDS information may not be applicable.</i></p>	

END OF MATERIAL SAFETY DATA