

SAFETY DATA SHEET

1. Identification

Product identifier	TSO-2/TSO-3/TSO-4/TSO-NP Conditioner & Maintenance Spray
Other means of identification	None.
Recommended use	Printing.
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Supplier

Company name	ITW Marking and Coding
Address	1 Missouri Research Park Drive St. Charles, MO 63304-5685 USA
Telephone	636-300-2000 / 800-526-2531
Contact person	Customer Service
Emergency phone number	800-535-5053 (US only) +1-352-323-3500 international

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
Health hazards	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	Extremely flammable aerosol. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Use only outdoors or in a well-ventilated area. Avoid breathing mist or vapor. Wear eye protection/face protection.
Response	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.
Storage	Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Ethanol	64-17-5	25 - 81
Ethyl acetate	141-78-6	0 - 25
2-Propanol	67-63-0	5 - 15
1-Methoxy-2-propanol	107-98-2	0 - 10
Titanium dioxide	13463-67-7	0 - 10
Propan-1-ol	71-23-8	0 - 2.9
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	147-14-8	0 - 2
C.I. Pigment Yellow 83	5567-15-7	0 - 2
Pigment red	3905-19-9	0 - 2

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	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.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed	Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Vapors may cause drowsiness and dizziness. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Flammable aerosol.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Move the cylinder to a safe and open area if the leak is irreparable. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

Environmental precautions

7. Handling and storage

Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not get this material in contact with eyes. Avoid breathing mist or vapor. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store in a closed container away from incompatible materials. Store between 35°F (2°C) and 120°F (49°C).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
2-Propanol (CAS 67-63-0)	PEL	980 mg/m3 400 ppm	
Ethanol (CAS 64-17-5)	PEL	1900 mg/m3 1000 ppm	
Ethyl acetate (CAS 141-78-6)	PEL	1400 mg/m3 400 ppm	
Propan-1-ol (CAS 71-23-8)	PEL	500 mg/m3 200 ppm	
Titanium dioxide (CAS 13463-67-7)	PEL	15 mg/m3	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value
1-Methoxy-2-propanol (CAS 107-98-2)	STEL	100 ppm
2-Propanol (CAS 67-63-0)	TWA	50 ppm
	STEL	400 ppm
Ethanol (CAS 64-17-5)	TWA	200 ppm
	STEL	1000 ppm
Ethyl acetate (CAS 141-78-6)	TWA	400 ppm
Propan-1-ol (CAS 71-23-8)	TWA	100 ppm
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
1-Methoxy-2-propanol (CAS 107-98-2)	STEL	540 mg/m3	
	TWA	150 ppm 360 mg/m3 100 ppm	
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper (CAS 147-14-8)	TWA	1 mg/m3	Dust and mist.
2-Propanol (CAS 67-63-0)	STEL	1225 mg/m3 500 ppm	
	TWA	980 mg/m3 400 ppm	
Ethanol (CAS 64-17-5)	TWA	1900 mg/m3 1000 ppm	
Ethyl acetate (CAS 141-78-6)	TWA	1400 mg/m3 400 ppm	
Propan-1-ol (CAS 71-23-8)	STEL	625 mg/m3 250 ppm	
	TWA	500 mg/m3 200 ppm	

Biological limit values**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
2-Propanol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines**US - California OELs: Skin designation**

1-Methoxy-2-propanol (CAS 107-98-2)
Propan-1-ol (CAS 71-23-8)

Can be absorbed through the skin.
Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Propan-1-ol (CAS 71-23-8)

Skin designation applies.

US. NIOSH: Pocket Guide to Chemical Hazards

Propan-1-ol (CAS 71-23-8)

Can be absorbed through the skin.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear approved safety goggles.

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves.

Other

Wear suitable protective clothing.

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties**Appearance****Physical state**

Liquid.

Form

Aerosol.

Color	Various.
Odor	Characteristic.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	168.8 °F (76 °C)
Flash point	30.2 °F (-1.0 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	2.1 % v/v
Flammability limit - upper (%)	15 % v/v
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	97 hPa at 20°C
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Partial.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	518 °F (270 °C)
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Avoid exposing aerosol containers to high temperatures or direct sunlight.
Incompatible materials	Strong oxidizing agents. Strong acids. Strong bases. Alkali metals. Halogens.
Hazardous decomposition products	Carbon oxides. Nitrogen oxides. Metal oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. May cause drowsiness and dizziness. Prolonged inhalation may be harmful.
Skin contact	Prolonged or repeated contact may dry skin and cause irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics	Exposed individuals may experience eye tearing, redness, and discomfort. May cause respiratory irritation. Vapors may cause drowsiness and dizziness. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
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Information on toxicological effects

Acute toxicity	May cause respiratory irritation. Narcotic effects.
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Components	Species	Test Results
1-Methoxy-2-propanol (CAS 107-98-2)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg
Oral		
LD50	Rat	3739 mg/kg
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper (CAS 147-14-8)		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg, 24 hours
Oral		
	Rat	15000 mg/kg
Ethanol (CAS 64-17-5)		
Acute		
Inhalation		
LC50	Rat	30000 mg/m3
Ethyl acetate (CAS 141-78-6)		
Acute		
Inhalation		
LC50	Rat	16000 mg/l, 6 Hours
Oral		
LD50	Rat	5600 mg/kg
Skin corrosion/irritation	Prolonged or repeated contact may dry skin and cause irritation.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Titanium dioxide is considered carcinogenic only when in an inhalable powdered form.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Titanium dioxide (CAS 13463-67-7)		2B Possibly carcinogenic to humans.
NTP Report on Carcinogens		
Not listed.		
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	May cause respiratory irritation. May cause drowsiness or dizziness.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. The product contains organic solvents which may be absorbed into the body by skin contact and cause permanent damage to the nervous system, including the brain.	

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
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Components	Species		Test Results
C.I. Pigment Yellow 83 (CAS 5567-15-7)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	18 mg/l, 48 hours
Ethyl acetate (CAS 141-78-6)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	2306 mg/l, 24 hours
Fish	LC50	Indian catfish (Heteropneustes fossilis)	200 - 225 mg/l, 96 Hours
Persistence and degradability	No data available.		
Bioaccumulative potential			
Partition coefficient n-octanol / water (log Kow)			
2-Propanol (CAS 67-63-0)	0.05		
Ethanol (CAS 64-17-5)	-0.31		
Ethyl acetate (CAS 141-78-6)	0.73		
Mobility in soil	The product is partly soluble in water. Expected to be mobile in soil.		
Other adverse effects	None known.		
13. Disposal considerations			
Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Dispose of contents/container in accordance with local/regional/national/international regulations.		
Local disposal regulations	Dispose in accordance with all applicable regulations.		
Hazardous waste code	D001: Waste Flammable material with a flash point <140 °F The waste code should be assigned in discussion between the user, the producer and the waste disposal company.		
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).		
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.		
14. Transport information			
DOT			
UN number	UN1950		
UN proper shipping name	Aerosols, flammable, (each not exceeding 1 L capacity)		
Transport hazard class(es)			
Class	2.1		
Subsidiary risk	-		
Label(s)	2.1		
Packing group	Not applicable.		
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.		
Special provisions	N82		
Packaging exceptions	306		
Packaging non bulk	None		
Packaging bulk	None		
IATA			
UN number	UN1950		
UN proper shipping name	Aerosols, flammable		
Transport hazard class(es)			
Class	2.1		
Subsidiary risk	-		
Packing group	Not applicable.		
Environmental hazards	No.		
ERG Code	10L		
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.		

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	F-D,S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

1-Methoxy-2-propanol (CAS 107-98-2)	LISTED
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper (CAS 147-14-8)	LISTED
Ethanol (CAS 64-17-5)	LISTED
Ethyl acetate (CAS 141-78-6)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes
	Delayed Hazard - No
	Fire Hazard - Yes
	Pressure Hazard - Yes
	Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations**US. Massachusetts RTK - Substance List**

1-Methoxy-2-propanol (CAS 107-98-2)
2-Propanol (CAS 67-63-0)
Ethanol (CAS 64-17-5)
Ethyl acetate (CAS 141-78-6)
Propan-1-ol (CAS 71-23-8)
Titanium dioxide (CAS 13463-67-7)

US. New Jersey Worker and Community Right-to-Know Act

1-Methoxy-2-propanol (CAS 107-98-2)
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper (CAS 147-14-8)
2-Propanol (CAS 67-63-0)
Ethanol (CAS 64-17-5)
Propan-1-ol (CAS 71-23-8)
Titanium dioxide (CAS 13463-67-7)

US. Pennsylvania Worker and Community Right-to-Know Law

1-Methoxy-2-propanol (CAS 107-98-2)
2-Propanol (CAS 67-63-0)
Ethanol (CAS 64-17-5)
Ethyl acetate (CAS 141-78-6)
Propan-1-ol (CAS 71-23-8)
Titanium dioxide (CAS 13463-67-7)

US. Rhode Island RTK

2-Propanol (CAS 67-63-0)
Ethyl acetate (CAS 141-78-6)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

C.I. Pigment Yellow 83 (CAS 5567-15-7)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	17-July-2015
Revision date	07-August-2015
Version #	02
Further information	HMIS® is a registered trade and service mark of the NPCA.
HMIS® ratings	Health: 2 Flammability: 3 Physical hazard: 1

NFPA ratings**Disclaimer**

ITW Marking and Coding cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.