



SAFETY DATA SHEET

Prepared in accordance with GHS (UN) and Singapore WSH (Chemical Agents) Regulations

PRODUCT NAME	TWIIN 4T SAE 10W-50 Fully Synthetic Motorcycle Engine Oil
SDS NUMBER	M10W50F
REVISION / DATE	Rev 1 — 21 June 2026 Supersedes: Rev 0 dated 21 October 2023
SPECIFICATIONS	API SN JASO MA2

SECTION 1 | PRODUCT AND COMPANY IDENTIFICATION

Product Name	TWIIN 4T SAE 10W-50 Fully Synthetic Motorcycle Engine Oil
SDS Number	M10W50F
Product Use	Lubricant for 4-stroke motorcycle engines with wet-clutch systems.
Supplier	TWIIN PTE. LTD. www.twiin-oil.com hello@twiin-oil.com
Manufacturer / Formulator	Molychem Industries Pte Ltd 11 Tuas South Link 1, #02-22 Shine@Tuas South, Singapore 636901 Tel: +65 6896 9266
Emergency Telephone	Molychem Industries Pte Ltd — +65 6896 9266 (office hours)
Restrictions on Use	Not for food, pharmaceutical, or any use other than stated intended use.

SECTION 2 | HAZARD IDENTIFICATION

GHS Classification	Not classified as hazardous under GHS (UN) for Singapore WSH (Chemical Agents) Regulations.
Signal Word	None
Hazard Statements	None required.
Precautionary Statements	Handle in accordance with good industrial hygiene and safety practices. See Sections 7 and 8.
GHS Pictograms	None required for this product.
Other Hazards	Combustible liquid. Flash point well above ambient temperature — not considered a fire risk under normal storage conditions. Prolonged or repeated skin contact with used engine oil may cause dermatitis. Product is not classified as an aspiration hazard in its intended use.
WHMIS / Regional	Not classified as a controlled product under applicable regulations at point of issue.

SECTION 3 | COMPOSITION / INFORMATION ON INGREDIENTS

Product Type	Mixture
Highly Refined Synthetic Base Stocks	>80% by weight. Not classified as hazardous. Severely hydrotreated / ester-based synthetic stocks.
Performance Additive Package	<20% by weight. May contain antioxidants, anti-wear agents, detergents, dispersants, viscosity modifiers. No individual component exceeds GHS disclosure thresholds for hazardous classification.
Hazardous Ingredients	None present above GHS disclosure thresholds at point of classification.
Note	Specific formulation data available from the manufacturer on request (Molychem Industries Pte Ltd).

SECTION 4 | FIRST AID MEASURES

Inhalation	Remove to fresh air. If symptoms persist, seek medical attention. Oil mists or vapours at elevated temperatures may cause respiratory irritation.
Skin Contact	Wash with soap and water. Remove contaminated clothing. Prolonged or repeated contact may cause irritation. Do not use solvents to remove product from skin.
Eye Contact	Flush immediately with large amounts of water for at least 15 minutes. If irritation persists, seek medical attention.
Ingestion	Do NOT induce vomiting. Rinse mouth with water. Seek medical attention if more than a small amount is swallowed.
Most Important Symptoms	Irritation of eyes, skin, and respiratory tract on prolonged or repeated exposure. Ingestion may cause gastrointestinal discomfort.
Medical Conditions Aggravated	Pre-existing skin disorders or chronic respiratory conditions may be aggravated by prolonged exposure.
Notes to Physician	Treat symptomatically. No specific antidote.

SECTION 5 | FIRE-FIGHTING MEASURES

Flash Point	>248°C (COC, ASTM D92)
Auto-ignition Temperature	Not determined
Flammable Limits in Air	LEL: 1.0% (v/v) UEL: 6.0% (v/v)
Suitable Extinguishing Media	Dry chemical, CO ₂ , or foam. Water may cause splattering — use only to cool and protect fire-exposed containers.
Unsuitable Extinguishing Media	Direct water jet onto burning product.
Unusual Hazards	Combustion or thermal decomposition may produce toxic fumes, gases, and vapours. Dense black smoke on burning.
Protective Equipment for Fire-Fighters	Full protective clothing and self-contained breathing apparatus (SCBA) required in confined spaces or heavy smoke conditions.
Further Information	Cool containers exposed to fire with water spray. Do not allow run-off to enter drains or waterways.

SECTION 6 | ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid skin and eye contact. Wear appropriate personal protective equipment (see Section 8). Eliminate ignition sources if large spill.
Environmental Precautions	Prevent entry to drains, sewers, and waterways. Notify relevant authorities if significant environmental contamination occurs.
Containment and Clean-Up	Absorb spill with dry sand, earth, or inert absorbent material. Collect in labelled containers for disposal per local regulations. Do not use combustible absorbents.
Disposal of Collected Material	Dispose of as waste oil in accordance with Singapore NEA guidelines and applicable local regulations.

SECTION 7 | HANDLING AND STORAGE

Handling Precautions	Avoid prolonged or repeated skin contact. Avoid breathing oil mists or vapours generated at elevated temperatures. Do not eat, drink, or smoke when handling. Wash hands before eating or using sanitary facilities.
Storage Conditions	Store in a cool, dry, well-ventilated area away from heat sources and direct sunlight. Keep containers tightly sealed when not in use. Store away from oxidising agents and strong acids.
Storage Temperature	Recommended: 5°C to 40°C
Incompatible Materials	Strong oxidising agents, strong acids.
Packaging Note	Product is supplied in 1-litre flexible pouches. Use contents fully after opening. Do not refill pouches.

SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits	No specific OEL established for this product. Apply good occupational hygiene practices. Singapore WSH (Chemical Agents) Regulations apply.
Engineering Controls	Use in well-ventilated areas. Local exhaust ventilation recommended where mists or vapours may be generated.
Eye / Face Protection	Safety spectacles or chemical splash goggles when there is risk of splashing.
Skin Protection	Chemical-resistant gloves (nitrile or neoprene) for prolonged handling. Wear protective clothing to avoid repeated skin contact.
Respiratory Protection	Not normally required. If oil mist is generated (e.g. spray application, elevated temperature), use half-face respirator with P2 filter or OV/P2 combination cartridge.
Hygiene Measures	Wash hands thoroughly after handling. Do not use solvents to clean skin. Use barrier creams if appropriate.

SECTION 9 | PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear amber liquid
Odour	Mild petroleum/synthetic characteristic odour
Odour Threshold	Not determined
pH	Not applicable
Flash Point (COC, ASTM D92)	>248°C (COC, ASTM D92)
Boiling Point / Range	>280°C (decomposition)
Vapour Pressure (20°C)	<0.5 Pa
Vapour Density (air = 1)	Not applicable
Relative Density (kg/L)	0.84 kg/L
Solubility in Water	Negligible
Pour Point (ASTM D97)	-33°C
Kinematic Viscosity @ 40°C (ASTM D445)	127 cSt
Kinematic Viscosity @ 100°C (ASTM D445)	18.6 cSt
Viscosity Index (ASTM D2270)	165
Auto-ignition Temperature	Not determined
Explosive Properties	Not classified as explosive
Oxidising Properties	Not classified as oxidising

SECTION 10 | STABILITY AND REACTIVITY

Reactivity	No specific reactivity hazards under normal conditions of storage and use.
Chemical Stability	Stable under recommended storage and handling conditions.
Conditions to Avoid	Excessive heat, direct flame, strong oxidising conditions.
Incompatible Materials	Strong oxidising agents, strong acids, halogenated solvents.
Hazardous Decomposition Products	May include CO, CO ₂ , hydrocarbons, sulphur oxides, and nitrogen oxides under combustion or extreme thermal conditions.
Possibility of Hazardous Reactions	Will not occur under normal conditions.

SECTION 11 | TOXICOLOGICAL INFORMATION

Acute Oral Toxicity (LD50)	Not determined. Based on component data: low acute toxicity by ingestion (LD50 > 2000 mg/kg estimated).
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Acute Dermal Toxicity	Not determined. Not expected to be acutely toxic by skin absorption.
Acute Inhalation Toxicity	Not determined. Oil mist at elevated temperatures may cause respiratory irritation.
Skin Irritation / Corrosion	Not classified as irritant or corrosive under normal conditions. Prolonged or repeated contact may cause defatting and irritation.
Eye Irritation	May cause mild transient irritation. Not classified as serious eye damaging.
Sensitisation	Not expected to be a skin or respiratory sensitiser.
Carcinogenicity / Mutagenicity	Base stocks are severely hydrotreated/synthetic; not classified as carcinogenic under IARC, NTP, or GHS criteria. Prolonged contact with used engine oil has been associated with increased risk — used oil should be handled with care.
Reproductive Toxicity	Not classified.
STOT (Single Exposure)	Not classified.
STOT (Repeated Exposure)	Not classified under current data.
Aspiration Hazard	Not classified. Kinematic viscosity above 20.5 cSt at 40°C; aspiration hazard criteria not met.

SECTION 12 | ECOLOGICAL INFORMATION

Aquatic Toxicity	Not classified as environmentally hazardous. Specific aquatic toxicity data not available for this product. Highly refined lubricant base oils have low inherent aquatic toxicity.
Persistence and Degradability	Mineral/synthetic base stocks are not readily biodegradable. Performance additives vary.
Bioaccumulation Potential	Not expected to bioaccumulate significantly based on physico-chemical properties.
Mobility in Soil	Low solubility in water. Product floats on water and may adsorb to soils.
Other Adverse Effects	Prevent entry to drains and waterways. Oil film on water surfaces is harmful to aquatic life.

SECTION 13 | DISPOSAL CONSIDERATIONS

Waste Treatment Methods	Do not pour down drains or into watercourses. Dispose of as waste oil in accordance with Singapore National Environment Agency (NEA) requirements for scheduled waste.
Container Disposal (1L Pouch)	Drain residual oil completely. The 1-litre flexible pouch may be disposed of with general waste where local regulations permit, once fully drained. Do not re-use or refill pouches. Do not incinerate sealed pouches.
Regulatory Classification (Singapore)	Used lubricating oil is a scheduled waste under the Singapore Environmental Protection and Management Act (EPMA). Engage a licensed waste contractor for collection and disposal.

SECTION 14 | TRANSPORT INFORMATION

UN Number	Not regulated as a dangerous good
UN Proper Shipping Name	Not applicable
Transport Hazard Class	Not classified
Packing Group	Not applicable
Environmental Hazards (Marine Pollutant)	Not classified as a marine pollutant
IMDG / IATA	Not subject to IMDG or IATA dangerous goods regulations
Special Precautions	Ensure containers are securely sealed during transport. Prevent spillage.

SECTION 15 | REGULATORY INFORMATION

Singapore WSH Act	This SDS is prepared in accordance with the Workplace Safety and Health Act (Cap 354A) and the WSH (Chemical Agents) Regulations. The product is not classified as a hazardous substance under these regulations at point of issue.
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Singapore EPMA	Used product constitutes scheduled waste under the Environmental Protection and Management Act. Disposal must be managed by a NEA-licensed contractor.
GHS (UN)	Prepared in accordance with the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS), 9th Revised Edition.
REACH (EU)	Not currently marketed in EU/EEA. Not subject to EU REACH at point of issue.
Other Markets	Comply with applicable national and local regulations in the country of use. Users are responsible for verifying regulatory status in their jurisdiction.

SECTION 16 | OTHER INFORMATION

Revision History

Rev	Date	Description	Prepared by
0	21 October 2023	Initial issue	Molychem / TWIIN
1	21 June 2026	Standardisation to new GHS SDS template; corrected flash point alignment; updated supplier contact	TWIIN PTE. LTD.

Key Changes This Revision	Standardisation to new GHS SDS template; section order corrected per GHS (Hazard ID = Section 2, Composition = Section 3); flash point entries aligned between Section 5 and Section 9; LEL/UEL corrected (was UEL/UEL); container disposal updated for 1L flexible pouch; supplier and manufacturer contact details added; Section 15 updated with Singapore regulatory references.
Abbreviations	COC = Cleveland Open Cup cSt = centistokes GHS = Globally Harmonized System JASO = Japanese Automotive Standards Organisation LEL = Lower Explosive Limit NEA = National Environment Agency (Singapore) OEL = Occupational Exposure Limit UEL = Upper Explosive Limit WSH = Workplace Safety and Health
Data Sources	Physical property data sourced from manufacturer (Molychem Industries Pte Ltd) product data sheets and MSDS documents. GHS classification based on component data available at time of issue.
Disclaimer	The information in this SDS was prepared in good faith based on data available at the time of issue. TWIIN PTE. LTD. and Molychem Industries Pte Ltd accept no liability for any loss or damage arising from use of this information contrary to the guidance provided. Users must satisfy themselves as to the suitability of the product for their intended application and comply with all applicable laws and regulations.
Prepared by	TWIIN PTE. LTD. www.twiin-oil.com
Next Review Date	21 June 2028 (or earlier if formulation or regulation changes)