

Sulfolane (CAS:126-33-0) Reference Documents for TDS, COA, MSDS

General Basic Information

Chinese Name: Sulfolane; Aliases: Tetramethylene sulfone,

Tetrahydrothiophene 1,1-dioxide

English Name: Sulfolane / Tetramethylene sulfone

Molecular Formula: $\text{C}_4\text{H}_8\text{O}_2\text{S}$; Molecular Weight: 120.17EC Number: 204-783-1; Purity Grade: Industrial High Purity $\geq 99.5\%$

I. Technical Data Sheet (TDS) Full English & Chinese Version

TDS Header

TDS-Sulfolane Rev.2026

Product: High-Purity Sulfolane

CAS No.: 126-33-0

Applications: Aromatic extraction solvent, solvent for PEEK/Polyimide synthesis, PAN carbon fiber spinning solvent, electronic cleaning, high-boiling polar solvent for organic synthesis

Packaging: 200L galvanized iron drums, net weight 170kg/drum; 1000kg IBC tote tanks

Shelf Life: 24 months (sealed storage in cool place)

1. Typical Physical & Chemical Properties

表格

Test Item	Specifications	Test Conditions
Appearance	Colorless transparent viscous liquid, crystallizes at low temperature	25°C
Purity (GC)	$\geq 99.5\%$	Gas Chromatography
Water Content	≤ 50 ppm	Karl Fischer Titration
Color (APHA)	≤ 10	Platinum-Cobalt Colorimetry
Free Acidity (as H_2SO_4)	$\leq 0.001\%$	Titration Method
Ash Content	≤ 10 ppm	Ignition Method
Metal Ions (Na/K/Ca/Fe)	≤ 1 ppb	ICP-MS (Electronic Grade Optional)
Freezing Point	26°C	Atmospheric Pressure
Boiling Point	285°C (Decomposes)	101.325kPa
Density	1.261 g/cm ³	30°C

Test Item	Specifications	Test Conditions
Flash Point (Closed Cup)	177°C	ASTM D93
Kinematic Viscosity	10.3 mm ² /s	30°C
Vapor Pressure	0.035 hPa	30°C
Water Solubility	Fully miscible; soluble in alcohols, ethers, aromatics	20°C
logP (Octanol/Water)	0.00	20°C

2. Operation Guidelines

1. Operating Temperature Range: 80–180°C normally; long-term exposure above 230°C is prohibited (thermal decomposition releases SO₂)
2. Material Compatibility: 304/316 stainless steel, glass-lined steel, PTFE; avoid long-term high-temperature contact with ordinary carbon steel
3. System Requirements: Closed negative-pressure operation equipped with condensation recovery devices and local forced ventilation
4. Incompatible Substances: Strong oxidants (potassium permanganate, concentrated nitric acid, liquid chlorine), long-term coexistence with strong alkalis at high temperature

3. Storage & Transportation

- Storage: Cool and dry warehouse, temperature below 30°C, anti-freezing (crystallizes below 26°C, recoverable by heating to 35°C); keep away from open flames and oxidants
- Transportation: General liquid chemical, non-hazardous chemical (no UN number); sealed and moisture-proof to prevent dilution by water ingress

4. Compliance Statement

Compliant with REACH registration and GB/T 34672 Industrial Sulfolane standard; EU DoC and WERCS filing support available

II. Certificate of Analysis (COA) Standard Template

CERTIFICATE OF ANALYSIS

Product Name: Sulfolane

CAS: 126-33-0

Grade: Industrial High Purity

Batch No.: SL-20260626-01

Production Date: 2026-06-26

Retest Date: 2028-06-25

Net Weight: 170kg/Drums

Testing Standard: GB/T 34672-2017

表格

Analytical Item	Specification	Test Result	Test Method
Purity (GC)	≥99.50%	99.82%	GC-FID
Water Content	≤50 ppm	28 ppm	Karl Fischer
Color (APHA)	≤10	5	Pt-Co Colorimetry
Free Acidity (as H ₂ SO ₄)	≤0.001%	0.0004%	Titration
Residue on Ignition	≤10 ppm	4 ppm	550°C Ashing
Appearance	Colorless clear liquid	Complied	Visual Inspection
Melting Point	25.5–26.5°C	26.1°C	Melting Point Apparatus

Conclusion: This batch complies with specification standard.

QC Inspector: _____

Approved by QA Manager: _____

Date Issued: 2026-06-26

Company Seal (Seal Area)

COA Layout Schematic Diagram

Key Elements of COA Component Analysis Report

- Header
- Visual Inspection
- Physical Performance Indicators
- Physicochemical Indexes
- Microbial Indexes
- Conclusion

III. Safety Data Sheet (SDS/MSDS) Full 16-Section Version (GB/T16483-2008)

Section 1 Product and Supplier Identification

1.1 Product Name: Sulfolane

1.2 CAS No.: 126-33-0; Alias: Tetramethylene sulfone

1.3 Recommended Use: Industrial extraction, synthetic solvent; Forbidden for food and oral pharmaceutical applications

1.4 Supplier Information, 24-Hour Emergency Hotline: 0532-83889090
(National Chemical Emergency Hotline)

Section 2 Hazard Identification

GHS Classification:

- Acute Oral Toxicity Category 4; Skin Corrosion/Irritation Category 2; Serious Eye Damage/Eye Irritation Category 2

Signal Word: WARNING

Hazard Statements:

H302 Harmful if swallowed; H315 Causes skin irritation; H319 Causes serious eye irritation

Precautionary Statements:

P264 Wash thoroughly after handling; P280 Wear eye protection and solvent-resistant gloves; P301+P312 IF SWALLOWED: Call a poison center or doctor if you feel unwell; P305+P351+P338 IF IN EYES:

Rinse continuously with water for several minutes, remove contact lenses if present and easy to do, continue rinsing

Section 3 Composition/Information on Ingredients

Pure product: Sulfolane $\geq 99.5\%$, impurities include water and trace sulfone derivatives, no toxic heavy metals added

Section 4 First-Aid Measures

- Inhalation: Remove victim to fresh air; seek medical attention if breathing difficulty occurs
- Skin Contact: Remove contaminated clothing, rinse skin thoroughly with water for 15 minutes, apply skin care ointment
- Eye Contact: Hold eyelids open and flush continuously with water for 15 minutes; consult ophthalmologist immediately
- Ingestion: Do NOT induce vomiting; drink plenty of warm water and seek medical help right away

Section 5 Fire-Fighting Measures

Hazard Characteristics: Combustible; thermal decomposition at high temperature releases CO, SO₂ and sulfide fumes

Suitable Extinguishing Media: Water spray, alcohol-resistant foam, dry powder, CO₂, sand

Unsuitable Extinguishing Media: Direct water jet on high-temperature containers (risk of splashing and spreading)

Firefighter Protection Equipment: Self-contained positive-pressure breathing apparatus, full acid/alkali resistant chemical protective suit

Section 6 Accidental Release Measures

Small Spill: Absorb with sand/activated carbon, collect waste liquid into sealed drums; prevent discharge into sewer

Large Spill: Dike and contain spill, recover with explosion-proof pumps; isolate ignition sources and evacuate downwind personnel

Environmental Control: Strictly prohibit discharge into rivers and groundwater; report to environmental authorities if water pollution occurs

Section 7 Handling and Storage

Handling: Closed ventilation, control flow velocity to prevent static electricity; no eating, drinking or smoking; avoid prolonged heating at high temperature

Storage: Cool and ventilated warehouse, temperature $\leq 30^{\circ}\text{C}$; store separately from oxidants and strong alkalis, sealed and anti-freezing

Section 8 Exposure Controls/Personal Protection

No national occupational exposure limit standards

Engineering Controls: Local exhaust ventilation, closed reaction kettles

Personal Protective Equipment:

Respiratory Protection: Half-face respirator with organic vapor filter cartridge for high-concentration vapor exposure

Hand Protection: Nitrile / fluoroelastomer solvent-resistant gloves

Eye Protection: Chemical safety goggles

Body Protection: Anti-static work uniform

Section 9 Physical and Chemical Properties

Consistent with parameters listed in TDS (appearance, melting point, boiling point, density, flash point, solubility, vapor pressure, etc.)

Section 10 Stability and Reactivity

Stability: Stable at ambient temperature; thermal decomposition occurs above 230°C

Incompatible Substances: Strong oxidants, concentrated strong alkalis, active metals

Conditions to Avoid: Sustained high temperature, open flame, intense sunlight exposure

Hazardous Decomposition Products: Sulfur dioxide, carbon monoxide, organosulfur compounds

Section 11 Toxicological Information

Acute Oral LD₅₀ (Rat): 1900 mg/kg; Low toxicity

Skin Contact: Long-term exposure causes dryness, peeling and mild irritation

No clear evidence of carcinogenicity or mutagenicity (Unclassified by IARC)

Section 12 Ecological Information

Moderately biodegradable; low toxicity to aquatic organisms; avoid large-volume discharge into water bodies

Section 13 Disposal Considerations

Waste Liquid: Entrust licensed hazardous waste disposal units for incineration

Empty Drums: Recycle after solvent cleaning; random disposal prohibited

Section 14 Transport Information

UN Number: None (Non-hazardous chemical)

Packing Group: General Class III liquid packaging

Transport Requirements: Sealed, anti-freezing, sun-proof; mixed loading with oxidants forbidden

Section 15 Regulatory Information

Applicable Regulations: GB 30000 GHS Classification, REACH, National Hazardous Chemical Catalogue (Not listed as hazardous chemical), atmospheric and water pollutant emission standards

Section 16 Other Information

Issue Date: 2026-06-26; Version V2.0; Reference: Chevron Phillips Original SDS Data

IV. Official Original PDF Download Links (Directly Save & Print for Customs Declaration / Customer Delivery)

1. Chevron Phillips Anhydrous Sulfolane SDS/MSDS (Chinese & English): <https://stage-www.cpchem.com/sites/default/files/2024-02/01999368.pdf>
2. Electronic Grade Sulfolane Original TDS/SDS: <https://www.cpchem.com/sites/default/files/2024-04/01999719.pdf>
3. Full Chinese SDS Compliant with National Standards: <http://www.ichemistry.cn/msds/2180.htm>

Supplementary Explanation

1. TDS: General performance reference document, shared by all batches, displaying typical parameters and process guidance
2. COA: Unique batch-specific test certificate, issued separately for each shipment, mandatory for customs clearance and customer acceptance
3. MSDS/SDS: Safety compliance document, compulsory supporting file for sea/land transportation, plant safety assessment and REACH registration