



化学品安全技术说明书

Material Safety Data Sheet

第1部分 化学品及企业标识

Part.1 Chemical & Industry remark

化学品中文名：聚四亚甲基醚二醇

Chemical Chinese Name: 聚四亚甲基醚二醇

化学品中文别名：聚四氢呋喃、聚四甲撑醚二醇、四氢呋喃均聚醚

Chemical Chinese Other Name: 聚四氢呋喃、聚四甲撑醚二醇、四氢呋喃均聚醚

化学品英文名：Polytetrahydrofuran (PTMEG)

Chemical English Name: Polytetrahydrofuran (Abbreviation:PTMEG)

分子式： $(C_4H_8O)_n H_2O$ 或 $HO[CH_2CH_2CH_2CH_2O]_nH$

Molecular Formula: $(C_4H_8O)_n H_2O$ OR $HO[CH_2CH_2CH_2CH_2O]_nH$

相对分子量：650~3000

Relative Molecular Weight: 650~3000

企业名称：山东轩海化工有限公司

Industry Name: Shandong Hosea Chemical Co., Ltd.

企业地址：山东寿光五星广场A1303号

Industry Add: No A1303, Five-star building, Shouguang, Shandong, P.R. China

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化学事故应急咨询专线：13573177733





Chemical Emergency Call: +86-13573177733

产品用途：聚氨酯弹性纤维（氨纶）、聚氨酯弹性体、酯醚共聚弹性体、聚氨酯涂料、聚氨酯粘合剂等领域。

Production Usage: Spandex, Polyurethane elastomer, Polyurethane Coatings, Polyurethane Adhesive etc.

第2部分 危险性概述

Part. 2 Danger Description

紧急情况概述：可燃物（高温热表面能够燃烧）

Emergency Summary: Combustible (high temperature hot surface can burn)

GHS 危险性类别：按照联合国《关于危险货物运输的建议书-试验和标准手册》（第十九版）甄别程序判定，本品不属于爆炸品，亦不属于氧化剂，易燃物等危险品，根据《危险化学品目录》（2015版）、化学品分类、警示标签和警示性说明规范系列标准（参阅第15部分），该物质不属于危险品或危险货物。

GHS Danger Category: According to the <United Nations Recommendation on the Transport of Dangerous Goods - Manual of Tests and Standards> (nineteenth edition), this product is not an explosive, oxidant, flammable or other dangerous goods. According to the <Hazardous Chemicals Catalogue> (2015 edition), chemical classification, warning labels and warning instructions system standard (refer to the fifteenth part), this substance is not dangerous or dangerous goods.

标签要素：无 Label

Factor: None 象形

图：无 Pictograph:

None

警示词：无

Warning Word: None

危险信息：燃烧或热分解的气体对人有害。

Danger Info: Burning or thermally decomposed gases are harmful to human beings.

防范说明：

Precautionary Note:

预防措施：远离火源，高热、强氧化剂物质；避免接触空气或水分。工作场所严禁吸烟，要求穿防静电工作服，戴防护手套；灭火可能接触其蒸汽时，应佩戴空气呼吸器，戴安全防护眼镜。



Preventive Measures: Keep away from fire sources, high heat and strong oxidizing substances; Avoid contact with air or moisture; Smoking is strictly prohibited in the workplace; Anti-static work clothes and protective gloves are required;

Air respirators and safety glasses should be worn when may come into contact with steam under fire extinguishing circumstance

应急响应：迅速切断泄漏源，隔离泄漏区域，严格限制出入并切断火源。

Emergency Response: quickly cut off the leakage source, isolate the leakage area, strictly restrict access and cut off the fire source.

安全储存：储存于阴凉、通风的库房；远离火种、高热。

Safe Storage: store in a cool and ventilated storehouse; keep away from fire and hot circumstance.

废弃处置：依照国家和对方相关法规。

Disposal: according to the relevant regulations of the state and the other party.

危险货物分类：不属于危险货物。

Dangerous Goods Classification: it is not dangerous goods.

物理危险：室温下为可燃固体，遇高热、明火，表面会燃烧。

Physical Danger: flammable solid at room temperature. When exposed to high heat and open flames, the surface will burn.

健康危害：本品对人体无明显毒性。

Health Hazard: This product has no obvious toxicity to human body.

环境危害：对水生生物可能有害。

Environmental Hazards: it may be harmful to aquatic organisms.

第3部分 成分/组成信息

Part 3 Component

物质

Substance

混合物

Mixture

组分 (Component)	浓度范围 (Purity)	CAS NO.
聚四亚甲基醚二醇(PTMEG)	≥99.95%	25190-06-1

RTECS: /

UN 编号: /(非危险货物)



UN NO.:/(Not dangerous cargo)

危险货物编号：/(非危险货物)

Dangerous cargo No.:/(Not dangerous cargo)

外观与性状：常温下为白色蜡状固体，温度升高至 60℃后融化为透明、无色液体。

Appearance & Properties:It is white waxy solid at normal temperature, melts into a transparent and colorless liquid when the temperature rises to 60°C.

危险性分类：/

Risk classification: / 侵

入途径：食入。

Invasion Way: Eating.

第4部分 急救措施

Part 4. Emergency Measures

急救：

First Aid:

皮肤接触：立即脱去被污染的衣着，快速用大量流动清水连续冲洗污染部位，如有持续不适，就医。

Skin contact: Take off the contaminated clothes immediately, rinse the contaminated skin area continuously with a large amount of flowing water, and seek medical treatment if there is persistent discomfort.

眼睛接触：提起眼睑，立即用大量流动清水连续冲洗眼睛，如有持续不适，就医。

Eye contact: Lift the eyelids, immediately rinse the eyes continuously with a large amount of flowing water, seek medical treatment if there is persistent discomfort.

食入：用大量水漱口，催吐。给饮水，立即就医。

Eating: Gargle with plenty of water to induce vomiting, see doctor.

第5部分 消防措施

Part.5 Fire-fighting Measures

燃烧危险性：高温热表面，燃烧。

按照联合国《关于危险货物运输的建议书-规章范本》（参阅第十五部分）易燃固体测试方法进行筛选测试：不属于易燃固体。



Combustion hazard: When it is in high temperature hot surface, combustion.

According to the United Nations Recommendations on <the Transport of Dangerous Goods -Model Regulations> (see Part 15), the test methods for flammable solids are screened and tested: they are not flammable solids.

灭火方法和灭火剂：消防人员必须穿全身防护服，佩戴呼吸设备，在上风向灭火。灭火剂：泡沫、干粉、二氧化碳、雾状水、砂土等。

Fire extinguishing methods and extinguishing agents: Firefighters must wear full body protective clothing, breathing equipment and fire fighting in the upper wind direction. Fireextinguishing agents: foam, dry powder, carbon dioxide, fog water, sand etc..

灭火注意事项及措施：注意风向，尽可能喷水冷却容器，可能的话将容器从火场移至空旷处。防止容器泄漏后扩散引起环境事故。

Fire extinguishing precautions and measures: pay attention to the wind direction, spray water as far as possible to cool the container, if possible, move the container from the firesite to the open space. Prevent containers from spilling and causing environmental accidents.

第6部分 泄露应急处理

Part.6 Leakage emergency handling

作业人员防护措施：切断火源，立即清理泄漏物，防止接触皮肤或眼睛。作业人员穿戴防护服、手套、安全眼睛和呼吸器。

Operators'protective measures: cut off the fire source, clean up the leakage immediately, and prevent contact with skin or eyes. Operators wear protective clothing, gloves, safetyeyes and respirators.

环境保护措施：尽可能切断泄漏源，防止进入下水道、排洪沟等限制性空间或进入水体。

Environmental protection measures: cut off leakage sources as far as possible to preventaccess to restricted space like sewers, drainage ditches or water bodies

泄漏化学品的收容、处置及材料：

少量泄漏：用砂土或其它不燃材料吸附或吸收。

大量泄漏：构筑围堤或挖坑收容，用防爆泵转移至槽车或收集于密闭容器中以待废弃处理。

Reception and disposal materials for leaked chemicals:

Small leakage: Adsorption or absorption with sand or other non-combustible materials.

Large leakage: build embankments or dig pits for storage, transfer them to tank trucks with explosion-proof pumps or collect them in sealed containers for disposal.



第7部分 操作处置与储存

Part.7 Operational Disposal and Storage

操作注意事项:

Operation precautions:

氮封、密闭操作。操作人员应经过专门培训，严格遵守操作规程。建议操作人员佩戴过滤式防毒面具（半面罩），戴安全防护眼镜，穿防静电工作服，戴橡胶耐油手套。远离火种、热源，工作场所严禁吸烟。

Nitrogen sealing and sealing operation. Operators should be specially trained and strictly abide by the operating rules. Operators are advised to wear filtered gas masks (half masks), safety glasses, anti-static work clothes and rubber oil-resistant gloves. Keep away from fire and heat sources. Smoking is strictly prohibited in the workplace.

使用防爆型的通风系统和设备，禁止使用易产生火花的机械设备和工具。

Explosion-proof ventilation systems and equipment shall be used, and mechanical equipment and tools prone to sparks shall be prohibited.

防止物料泄漏到工作场所地下水管线。避免与空气或氧化剂接触。灌装时应适当控制流速，且有接地装置，防止静电积聚。

Prevent material from leaking into the underground water pipeline in the workplace. Avoid contact with air or oxidants. When filling, flow rate should be properly controlled and grounding device should be provided to prevent electrostatic accumulation.

搬运时要轻装轻卸，防止包装及容器损坏。配备相应品种和数量的消防器材及泄漏应急处理设备。

Handling should be light loading and unloading to prevent damage to packaging and containers. Equipped with the corresponding variety and quantity of fire fighting equipment and leakage emergency treatment equipment.

储存注意事项:

Storage precautions:

应储存在完全封闭并有氮气密封的储罐或其它容器里，储罐须配有外部或内部加热设备，凝固的 PTMEG 可在70°C左右加热熔化，但不应长时间在90°C条件下贮存；移动容器应储存于阴凉、通风的库房，一般可储存2年。

Storage should be in completely closed tanks or other containers sealed with nitrogen. Storage tanks should be equipped with external or internal heating equipment. Solidified PTMEG can be heated and melted at about 70°C, but should not be stored at 90°C for a long time. Mobile containers should be stored in cool, ventilated warehouses, usually it can keep 2 years of shelf life under this circumstance.

容器包装必须密封，不可暴露于空气或水汽中。



Container package must be sealed and not exposed to air or water vapor.

须远离火种、热源。

Keep away from fire and heat sources.

运输容器要接地。

Transport containers should be grounded.

禁止与氧化剂配装。

It is forbidden to mix with oxidizer.

采用防爆型照明、通风设施。

Using explosion-proof lighting and ventilation facilities.

储区应备有泄漏应急处理设备和合适的收容器具。

The storage area shall be equipped with emergency leak handling equipment and right receptacles.

装卸时应佩戴手套和防护镜，以免眼睛、皮肤接触；完成工作后应用肥皂、水清洗。

Gloves and protective goggles should be worn during loading and unloading in order to avoid contact with eyes and skin. Soap and water should be applied after finishing the work.

第8部分 接触控制和个体防护

Part.8 Contact control and personal protection

接触限值：无

Contact limitation: None data

生物限值：中国MAC (mg/m³) 无

Biological limitation: MAC (mg/m³) in China None data

前苏联：MAC (mg/m³) 无

Former Soviet Union: MAC (mg/m³) None data

美国：TVL-TWA OSHA 无

USA: TVL-TWA OSHA None data

ACGIH：无

ACGIH：None data

美国：TVL-STEL 无

USA: TVL-STEL None data



监测方法：气相色谱法

Monitoring Method: Gas Chromatography

工程控制：生产过程密闭，禁止空气串入。提供安全淋浴和洗眼设备。

Engineering control: production process is closed, no air in series. Provide safe shower and eyewash equipment.

呼吸系统防护：一般不需作特殊防护，必要时建议配戴空气呼吸器。

Respiratory system protection: Generally, no special protection is required. If necessary, it is recommended to wear an air respirator.

眼睛防护：一般不需作特殊防护，必要时可配戴安全防护眼镜。

Eye protection: generally do not need special protection, if necessary, wear safety glasses.

皮肤和身体防护：穿防静电工作服。

Skin and physical protection: wear anti-static work clothes.

手防护：配戴防护手套。

Hand protection: Wear protective gloves.

其它防护：工作现场禁止吸烟。作业结束淋浴更衣。注意个人清洁卫生。

Other protections: No smoking in the workplace. Shower and change clothes at the end of homework. Pay attention to personal hygiene.

第9部分 理化特性

Part.9 Physicochemical Properties

外观与性状：白色蜡状固体，当温度超过室温后会变成透明无味液体。

Appearance and Properties: White waxy solid, it will become transparent and odorless liquid in high temperature

PH 值: 中性

PH value: neutral

熔点 (°C): 24

Melting point (°C): 24

闪点 (°C): >230

Flash point (°C) > 230

粘度 (CP): 200-260 (40°C, PTMEG-1000)

Viscosity (CP): 200-260 (40°C, PTMEG-1000)



燃烧性：可燃

Combustibility: Combustible 挥

发性：（wt ppm）：0.1MAX

Volatility: (wt ppm): 0.1MAX 折

射率（n_{25/D}）：1.463

Refractive index (n_{25/D}): 1.463

相对密度（水=1）：0.97（40°C）

Relative density (water = 1): 0.97 (40°C)

溶解性：微溶于水，可溶于醇、酯、酮、芳烃和氯化烃等多种有机溶剂。

Solubility: slightly soluble in water, soluble in alcohols, esters, ketones, aromatics and chlorinated hydrocarbons and other organic solvents.

第10部分 稳定性和反应性

Part.10 Stability and Reactivity

稳定性:在240°C以下，可保持稳定

Stability: Stable below 240°C

禁忌物：氧化剂

Taboos: oxidants

避免接触的条件:接触空气、氧气等。

Avoiding contact conditions: contact with air, oxygen, etc.

危险反应：因微细分散而产生大表面积时，有自燃的危险（避免温度高于100°C）。

Hazardous reaction: When the surface area is large due to fine dispersion, there is a risk of spontaneous combustion (avoiding temperature higher than 100°C).

热分解产物:四氢呋喃

Thermal decomposition product: Tetrahydrofuran

第11部分 毒理学信息

Part.11 Toxicological Information

急性毒性：



Acute toxicity:

LD50: 无资料;

LD50: no data;

LC50: 无资料

LC50: no data.

该物质不属于毒害品。

The substance is not toxic.

皮肤刺激、过敏或腐蚀: 无

Skin irritation, allergy or corrosion: none

眼睛刺激: 无资料 **Eye**

irritation: no data 生殖

突变: 无资料。

Reproductive mutation: no data 致

癌性: 无资料。 **Carcinogenicity:**

No data.

特异性靶器官系统毒性: 一次性接触, 无资料。

Specific target organ systemic toxicity: one-time exposure, no data

特异性靶器官系统毒性: 发复性接触, 无资料。

Specific target organ systemic toxicity: refolding contact, no data

吸入危害: 无。

Inhalation hazard: None.

第12部分 生态学信息

Part.12 Ecological Information

生态毒性: 半数抑制浓度 IC50: 无资料;

Ecotoxicity: half inhibitory concentration IC50: no data;

持久性和半衰期: 无资料

Persistence and half-life: no data



其它有害作用:该物质对环境可能有危害, 可能对水体生物有害。

Other harmful effects: The substance may be harmful to the environment and may be harmful to aquatic organisms.

潜在的生物累积性: 无资料 **Potential**

bioaccumulation: no data 迁移性: 无

资料。

Migration: No data.

第13部分 废弃处置

Part.13 Disposal

废弃处置办法:

Disposal methods:

废弃物品: 建议焚烧。

Disposal: Suggested incineration

不洁的包装: 根据相关法规或作危废处理。

Dirty package: According to relevant regulations or hazardous waste disposal.

废弃注意事项: 防止物料渗透到工作场所地下。防止进入下水道、排洪沟等限制性空间或进入水体。

Abandoned matters attention: Prevent material from penetrating into the underground of the workplace. Prevent access to restricted spaces such as sewers, drainage ditches or water bodies.

具体处置前应参阅国家和地方有关法规。

The relevant national and local regulations should be consulted before specific disposal.

第14部分 运输信息

Part.14 Transportation Information

联合国危险货物编号 (UN 号): /

United Nations Dangerous Goods Number (UN): /

联合国运输名称: 聚四亚甲基醚二醇、聚四氢呋喃

United Nations transport name: Polytetramethylene Ether Glycol, Polytetrahydrofuran.

危险货物类别: 无

**Dangerous Goods Category:** None

包装标志: 可燃液体 (加热后)

Packaging mark: flammable liquid (after heating)

包装方法: 氟化瓶, 冷轧桶或 ISO-Tank。

Packaging methods: fluoride bottle, cold-rolled barrel or ISO-Tank.

海洋污染物 (是/否): 否

Marine Pollutants (Yes/No): No

运输注意事项: 钢桶运输车辆应装设防护栏板, 防止滚动或移位, 严禁与强氧化剂混装; 槽车运输应注意氮封及保温。运输过程中皆应配备相应品种和数量的消防器材以及防静电措施。长途运输建议参照危化品的要求执行。

Transportation Matters Attention: steel drum transport vehicles should be equipped with protective fences to prevent rolling or displacement, forbidden to mix with strong oxidant; tanker transport should be sealing and thermal insulation.

In the course of transportation, fire fighting equipment and anti-static measures should be equipped with corresponding varieties and quantities. Long-distance transportation is recommended in accordance with the requirements of dangerous chemicals.

第15部分 法规信息

Part.15 Regulatory Information

下列法规、标准, 对化学品的危险性辨识、确定、安全生产、储存、运输、装卸、使用、分类和标志等方面均作了相应的规定:

The following regulations and standards provide for the identification, determination, safety in production, storage, transportation, handling, use, classification and marking of chemical hazards:

《危险化学品目录》(2015版);

Catalogue of Hazardous Chemicals (2015 edition);

《化学品分类、警示标签和警示性说明安全规范系列标准》(GB20576-2006~GB20602-2006);

Safety Standards for Chemical Classification, Warning Labels and Warning Notes (GB20576-2006-GB20602-2006);

《化学品分类和危险性公示通则》(GB13690-2009);

General Principles for the Classification and Hazard of Chemicals (GB13690-2009);

《危险货物分类与品名编号》(GB6944-2012);

Classification and Name Number of Dangerous Goods (GB6944-2012)



《危险货物物品名表》（GB12268-2012）；

Dangerous Goods List (GB12268-2012)

《关于危险货物运输的建议书-试验和标准手册》（第十九版）；

Recommendations on the Transport of Dangerous Goods - Manual of Tests and Standards (nineteenth edition)

《国际海运危险货物规则》（2014年版）；

International Maritime Dangerous Goods Rules (2014 edition)

《化学品安全技术说明书内容和项目顺序》（GB/T16483-2008）；

Contents and Project Sequence of Chemical Safety Technical Instructions (GB/T16483-2008)

《化学品安全标签编写规定》（GB15258-2009）；

Regulations on the Preparation of Chemical Safety Labels (GB15258-2009)

第16部分 其他信息

Part.16 Other Information

编制单位：山东轩海化工有限公司

Programing Unit: Shandong Hosea Chemical Co., Ltd

版本：第三版

Edition: No.3

企业编号：SL-MSDS(PTMEG)-03

Enterprise No.: SL-MSDS(PTMEG)-03

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参考文献：

Reference:

《全球化学品统一分类和标签制度》（GHS）

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)