

青岛海关技术中心
国家化学品分类鉴别与评估重点实验室（山东）

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审核报告
AUDIT REPORT

编号 (No): 37000010222112371

日期 (Date): 2023-01-03

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样品名称	中文名称	巯基乙醇	
	英文名称	Mercaptoethanol	
委托单位	益丰新材料股份有限公司		
生产单位	益丰新材料股份有限公司		
委托项目	安全数据单 (中英文) 审核		
样品组分 (企业申报)	巯基乙醇含量: 99.65%。		
审核依据	联合国《关于危险货物运输的建议书 规章范本》(第二十二修订版) 联合国《全球化学品统一分类和标签制度》(第九修订版)		
审核地点	青岛市黄岛区黄河东路 99 号	委托日期	2022-12-14

结论

经审核, 企业提供的安全数据单中的部分内容不符合联合国《关于危险货物运输的建议书·规章范本》、《全球化学品统一分类和标签制度》的要求, 修改后的安全数据单, 中文样本见附件1, 英文样本见附件2。

授权签字人: 车礼华

印章:



签发日期: 2023-01-03

注: 1. 无实验室盖章, 此报告无效。流水号: 1710。

2. 本报告部分复印无效。



化学品安全数据单

一、标识

全球统一制度产品标识符: 巯基乙醇。
其它标识办法: /
化学品使用建议和使用限制: /
供货商的详细情况: 益丰新材料股份有限公司。
紧急电话号码: /

二、危险标识

物质或混合物的分类:

易燃液体类别 4, 急毒性(口服)类别 3, 急毒性(皮肤)类别 2, 皮肤腐蚀/刺激类别 2, 严重眼损伤/眼刺激类别 2, 特定目标器官毒性——单次接触类别 2(中枢神经系统), 特定目标器官毒性——重复接触类别 2(肝), 危害水生环境(急性)类别 1, 危害水生环境(慢性)类别 1。

全球统一制度标签要素, 包括防范说明:



信号词: 危险。

危险说明: 可燃液体。吞咽会中毒。皮肤接触致命。造成皮肤刺激。造成严重眼刺激。可能对器官造成损害(中枢神经系统)。长期或重复接触可能对器官造成伤害(肝)。对水生生物毒性极大并具有长期持续影响。

防范说明:

预防:

远离热源、热表面、火花、明火和其他点火源。禁止吸烟。戴防护手套/穿防护服/戴防护眼罩/防护面具/听力保护。作业后彻底清洗……。使用本产品时不要进食、饮水或吸烟。切勿进入眼中、接触皮肤或衣服。不要吸入粉尘/烟/气体/气雾/蒸汽/喷雾。避免释放到环境中。

应对:

如起火, 使用水雾、泡沫、干粉灭火。如误吞咽: 立即紧急就医。专门治疗(见下文)。漱口。如皮肤沾染: 用水充分清洗。立即紧急就医。专门治疗(见下文)。立即脱掉所有沾染的衣服, 清洗后方可重新使用。如出现皮肤刺激: 请就医。如进入眼睛: 用水小心冲洗几分钟。如戴隐形眼镜并可方便地取出, 取出隐形眼镜。继续冲洗。如眼刺激持续: 请就医。如已接触或有疑虑: 立即紧急就医。如感不适, 请就医。收集溢出物。

存放:

存放于通风良好处。存放处须加锁。

处置:

按照相关规定处置内装物和容器。

不导致分类的其他危险: /

三、组成/成分信息

化学名称	化学文摘社登记号码 (CAS No.)	含量%
巯基乙醇	60-24-2	99.65

四、急救措施

必要的急救措施

吸入: 迅速脱离并移至空气新鲜处。保持呼吸道通畅。如呼吸困难, 给输氧。如呼吸停止, 立即进行人工呼吸。就医。

皮肤接触: 用肥皂和大量的水冲洗。就医。

眼睛接触: 用大量水彻底冲洗至少 15 分钟。就医。

食入: 用水漱口。就医。

最重要的急性和延迟症状/效应: /

必要时注明立即就医及所需的特殊治疗: /

五、消防措施

适当的灭火介质: 泡沫, 干粉, 二氧化碳。喷水或水雾-仅适于大火。

化学品产生的具体危险: 可燃。受热或接触明火, 有轻微的火灾危险。受热可能引起膨胀或分解, 导致容器急剧破裂。燃烧时可能释放有毒的一氧化碳(CO)烟雾。可能释放出刺鼻的烟雾。含有可燃性物质的烟雾可能具有爆炸性。

消防人员的特殊防护行为: 穿全身防护服, 并佩戴呼吸设备。采取一切可能的措施防止溢出物进入下水道或水道。用喷水雾的方法来控制火势, 并冷却邻近区域。避免直接喷水到液池中。不要靠近可能灼热的容器。从有防护的位置喷水以便冷却暴露于火灾中的容器。如果这么做安全的话, 将容器从火场中移走。

六、意外释放措施

人身防范、保护设备和应急程序: 清除所有点火源。立即清理所有泄漏物。防止吸入蒸气, 防止接触皮肤或眼睛。采用防护设备以控制人员接触。

环境防范措施: 在安全的前提下, 阻止泄漏。采取一切可能的措施防止溢出物进入下水道或水体。

抑制和清理的方法和材料: 小量泄露: 用沙子、土、惰性物质或蛭石来收集并吸附泄漏物。擦除。大量泄漏: 用沙子、土或蛭石吸收溢出物。将收集的可回收的产品放在贴有标签的容器里, 以便回收利用。用沙、土或蛭石吸收残留的产品。收集固体残留物, 密封于贴有标签的桶里, 以便废弃处置。冲洗泄漏区域, 并防止进入下水道。

七、搬运与储存

安全搬运的防范措施: 严禁物料弄湿的衣服直接接触皮肤。防止所有接触, 包括吸入。当有接触危险时, 穿戴防护服。在通风良好的区域使用。防止本品在低洼处汇集。未作空气检测, 禁止进入封闭空间内。禁止接触人体、食品或食品容器。避免接触不相容物料。操作处置时, 禁止进食、饮水或吸烟。不使用时, 保持容器安全密封。防止容器受到物理损伤。

安全存储的条件, 包括任何不相容性: 储存于原装容器中。保持容器安全密封。储存在阴凉、干燥、通风良好的地方。存储于远离不相容材料和食品容器的地方。防止容器受到物理损伤, 并定期检查泄漏情况。遵从制造商储存和处理方面的建议。

八、接触控制/人身保护

控制参数:

紧急限制

成分	物质名称	TEEL-1	TEEL-2	TEEL-3
2-巯基乙醇	Mercaptoethanol, 2-	0.6 ppm	3.5 ppm	29 ppm

适当的工程控制: 一般需要采取局部通风。如果有过度暴露的危险, 佩戴合适的呼吸器。呼吸器必须大小适中才能充分起到保护作用。在特殊情况下, 可能需要使用供气式呼吸器。

个人保护措施

防护眼罩/面具: 佩戴防毒面具。

皮肤防护: 穿防毒工作服。

呼吸系统防护: 紧急事态抢救或撤离时, 应该佩戴空气呼吸器。充足容量的 AB 种过滤器。

高温危险: /

九、物理及化学性质

物理状态	液体
颜色	无色透明
气味	/
熔点/凝固点	<-50°C
沸点或初始沸点及沸腾范围	157°C
易燃性	可燃
上下爆炸极限/易燃极限	2.3-18%
闪点	66.5°C
自燃温度	/
分解温度	/
pH 值	/
运动黏度	/
可溶性	混溶
辛醇-水分配系数 (对数值)	-0.056 (25 C)
蒸气压	0.133 @ 20 C
密度和/或相对密度	1.114
相对蒸气密度	2.69
颗粒特征	/

十、稳定及反应性

反应性: /

化学稳定性: 物质是稳定的。

危险反应的可能性: 不会发生危险的聚合反应。

应避免的条件: 高温、热源、点火源等。

不相容材料: 氧化剂。

危险分解产物: 一氧化碳(CO)、二氧化碳(CO₂)、硫氧化物(SO_x)、有机物燃烧产生的其他典型热解产物。

十一、毒理学信息

暴露途径: 吸入、经口、皮肤、眼睛。

有关物理、化学和毒理学特点的症状: /

急性毒性效应:

摄入会中毒, 导致灼烧感、恶心、呕吐、腹痛等症状。

皮肤接触会致命, 导致皮肤发红、疼痛。

吸入会导致咳嗽、咽喉疼痛。

眼睛接触会导致刺激、疼痛。

慢性毒性或长期毒性效应: 慢性接触硫醇可引起肺、肾脏和肝脏的损伤。

毒性的数值度量 (如急性毒性估计值):

吸入 (鼠) LC50: 2 mg/l/4h

经口 (鼠) LD50: 32-135 mg/kg

经皮 (半致死剂量) (野兔) LD50: 150 mg/kg

十二、生态信息

毒性:

终点	测试持续时间 (小时)	种类	价值
NOEC(ECx) 504h		甲壳纲动物	>0.063mg/l
LC50	96h	鱼	37mg/l
EC50	72h	藻类或其他水生植物	12mg/l
EC50	48h	甲壳纲动物	0.4mg/l

持久性及降解性: 水/土壤: 低。空气: 低。

生物累积潜力: 低 (BCF = 0.3)

在土壤中的流动性: 高 (KOC = 1.325)

其它有害效应: /

十三、处置考虑

处置方法: 尽可能回收本物质。如果不能确定有合适的处理或废弃处置设备, 联系制造商有关回收方法, 或联系当地或地区的废物管理部门有关废弃方法。按如下方法废弃处理: 在有许可证的填埋处进行掩埋或在有许可证的焚化场进行焚化 (与适当的可燃物质混合后)。对空的容器进行去污处理。遵守所有的标注规定, 直至容器被清洗或销毁为止。

十四、运输信息

联合国编号: 2966。

联合国运输名称: 硫甘醇。

运输危险种类: 6.1。

包装类别: II。

环境危害: 海洋污染物。

使用者的特殊防范措施: /

十五、管理信息

国内化学品安全管理法规:

本化学品安全技术说明书遵照了以下相关国家标准: GB/T 16483-2008、GB 13690-2009、GB 18218-2018、GB 15258-2009、GB 6944-2012、GB 190-2009、GB/T 191-2008、GB 12268-2012、GB/T 15098-2008、GBZ 2.1-2019、GBZ 2.2-2007以及相关法规: 《铁路危险货物运输管理规则》、《危险化学品安全管理条例》。

十六、其它信息

参考文献	联合国《关于危险货物运输的建议书规章范本》 联合国《全球化学品统一分类和标签制度》
制表日期	2023 年 01 月 03 日

注 1: 当产品为含有两种以上危险物质的混合物时, 应依据其混合后的危险性, 制作安全数据单。

注 2: 制造商/供应商应根据实际情况确保安全数据单所含信息的正确性, 并适时更新。

注 3: 如由于产品特性而不存在或不可得某些信息时 (如固体不存在沸点), 应在表格中以“/”标识。

Chemical Safety Data Sheet

SECTION 1 IDENTIFICATION

GHS Product identifier: 2-Mercaptoethanol

Other means of identification: /

Recommended use of the chemical and restrictions on use: /

Supplier's details: Efirm New Material Co., Ltd.

Emergency phone number: +86-0543-2515006

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Flammable Liquid Category 4, Acute Toxicity (Oral) Category 3, Acute Toxicity (Dermal) Category 2, Skin Corrosion/Irritation Category 2, Serious Eye Irritation Category 2, Specific target organ toxicity - single exposure Category 2 (central nervous system), Specific target organ toxicity - repeated exposure Category 2 (liver), Acute Aquatic Hazard Category 1, Chronic Aquatic Hazard Category 1.

GHS Label elements, including precautionary statements



Signal word: Danger

Hazard statement(s): Combustible liquid. Toxic if swallowed. Fatal in contact with skin. Causes skin irritation. Causes serious eye irritation. May cause damage to organs (central nervous system). May cause damage to organs through prolonged or repeated exposure (liver). Very toxic to aquatic life with long lasting effects.

Precautionary statement(s):

Prevention:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. Wash ...thoroughly after handling. Do not eat, drink or smoke when using this product. Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid release to the environment.

Response:

In case of fire: Use water spray, foam or dry powder to extinguish. If swallowed: Get emergency medical help immediately. Specific treatment (see below). Rinse mouth. If on skin: Wash with plenty of water. Get emergency medical help immediately. Specific treatment (see below). Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical help. 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 help. If exposed or concerned: Get emergency medical help immediately. Get medical help if you feel unwell. Collect spillage.

Storage:

Store in a well-ventilated place. Store locked up.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification: /

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration%
2-Mercaptoethanol	60-24-2	99.65

SECTION 4 FIRST AID MEASURES

Description of necessary first aid measures

If inhaled: Quickly leave and move to a place with fresh air. Keep the airway unobstructed. If breathing is difficult, give oxygen. If breathing stops, give artificial respiration immediately. Consult a physician.

In case of skin contact: Wash off with soap and plenty of water. Consult a physician.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed: Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed: /

Indication of immediate medical attention and special treatment needed: /

SECTION 5 FIREFIGHTING MEASURES

Suitable extinguishing media: Foam. Dry chemical powder. Carbon dioxide. Water spray or fog - Large fires only.

Special hazards arising from the chemical: Combustible. Slight fire hazard when exposed to heat or flame. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO). May emit acrid smoke. Mists containing combustible materials may be explosive.

Special protective actions for fire-fighters: Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Use water delivered as a fine spray to control fire and cool adjacent area. Avoid spraying water onto liquid pools. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes.

Environmental precautions: Stop leak if safe to do so. Prevent, by any means available, spillage from entering drains or water course.

Methods and materials for containment and cleaning up: Minor Spills: Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Major Spills: Contain spill with sand, earth or vermiculite. Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth or vermiculite. Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling: DO NOT allow clothing wet with material to stay in contact with skin. Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces

until atmosphere has been checked. DO NOT allow material to contact humans, exposed food or food utensils. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to containers.

Conditions for safe storage, including any incompatibilities: Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
2-mercaptoethanol	Mercaptoethanol, 2-	0.6 ppm	3.5 ppm	29 ppm

Appropriate engineering controls: Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances.

Personal protective equipment

Eye/face protection: Wear a gas mask.

Skin protection: Wear anti-static protective clothing.

Respiratory protection: Air respirators should be worn during emergency rescue or evacuation. Type AB Filter of sufficient capacity.

Thermal hazards: /

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid.
Colour	Colorless transparent.
Odour	/
Melting point/freezing point	<-50°C
Boiling point or initial boiling point and boiling range	157°C
Flammability	Combustible
Lower and upper explosion limit/flammability limit	2.3-18%
Flash point	66.5°C
Auto-ignition temperature	/
Decomposition temperature	/
pH	3-5
Kinematic viscosity	/
Solubility	Miscible
Partition coefficient: n-octanol/water (log value)	-0.056 (25 C)
Vapour pressure	0.133 @ 20 C
Density and/or relative density	1.114
Relative vapour density	2.69
Particle characteristics	/

SECTION 10 STABILITY AND REACTIVITY

Reactivity: /**Chemical stability:** Product is considered stable.**Possibility of hazardous reactions:** Hazardous polymerisation will not occur.**Conditions to avoid:** Heat, flames and sparks.**Incompatible materials:** Oxidizing agents.**Hazardous decomposition products:** Carbon monoxide (CO), carbon dioxide (CO₂), sulfur oxides (SO_x), other pyrolysis products typical of burning organic material.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure: Inhaled, Ingestion, skin, eyes.**Symptoms related to the physical, chemical and toxicological characteristics: /****Acute health effects**

Ingestion can be toxic and cause symptoms such as burning, nausea, vomiting and abdominal pain.

Skin contact can be fatal and cause redness, pain.

Inhalation can cause cough, throat pain.

Eyes contact can cause irritation, pain.

Chronic health effects: Chronic exposure to mercaptans may result in damage to the lungs, kidneys and liver.**Numerical measures of toxicity (such as acute toxicity estimates):**

Dermal (rabbit) LD50: 150 mg/kg

Inhalation (rat) LC50: 2 mg/l/4h

Oral (rat) LD50: 32-135 mg/kg

SECTION 12 ECOLOGICAL INFORMATION

Toxicity:

Endpoint	Test Duration (hr)	Species	Value
NOEC(ECx)	504h	Crustacea	>0.063mg/l
LC50	96h	Fish	37mg/l
EC50	72h	Algae or other aquatic plants	12mg/l
EC50	48h	Crustacea	0.4mg/l

Persistence and degradability: Water/Soil: LOW. Air: LOW.**Bioaccumulative potential:** LOW (BCF = 0.3)**Mobility in soil:** HIGH (KOC = 1.325)**Other adverse effects: /**

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal methods: Recycle wherever possible. Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material). Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14 TRANSPORT INFORMATION

UN number: 2966.
UN proper shipping name: THIOGLYCOL.
Transport hazard class(es): 6.1.
Packaging group: II.
Environmental hazards: Marine pollutant.
Special precautions for user: /

SECTION 15 REGULATORY INFORMATION

Regulations: This safety data sheet is in compliance with the following national standards: GB/T 16483-2008, GB 13690-2009, GB 18218-2018, GB 15258-2009, GB 6944-2012, GB 190-2009, GB/T 191-2008, GB 12268-2012, GB/T 15098-2008, GBZ 2.1-2019, GBZ 2.2-2007 as well as the following regulations: Railway Dangerous Goods Transport Administrative Regulation, Dangerous Chemicals Safety Administrative Regulation.

SECTION 16 OTHER INFORMATION

References	“Model Regulations on the Transport of Dangerous Goods” “The Globally Harmonized System of Classification and Labelling of Chemicals”
Form Date	03-Jan-2023

Note 1: When products contain two or more hazardous substances, Safety Data Sheets should be prepared based on the risk of the mixture.

Note 2: Manufacturer / supplier should ensure the correctness of the information contained in the safety data sheets, and updated in a timely manner.

Note 3: As a result of product features without the existence of certain information (such as boiling point does not exist for the solid) in the table with "/" logo.