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审核报告
AUDIT REPORT

编号（No）：37000010222104879

日期（Date）：2022-06-13

第 1 页，共 1 页

样品名称	中文名称	马来酸酐		
	英文名称	MOLTEN Maleic anhydride		
委托单位	淄博齐翔腾达化工股份有限公司			
生产单位	淄博齐翔腾达化工股份有限公司			
委托项目	安全数据单（中英文）审核			
样品组分 （企业申报）	顺丁烯二酸酐含量 99.72%。			
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	2022-05-30

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：

车礼东

印章：



签发日期：2022-06-13

注：1.无实验室盖章，此报告无效。流水号：9673 。

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: 马来酸酐。
其它标识办法: 顺丁烯二酸酐。
化学品使用建议和使用限制: 本品可用于有机合成, 也用作合成纤维中间体。
供货商的详细情况:
紧急电话号码:

二、危险标识

物质或混合物的分类:
急毒性(口服)类别 4, 皮肤腐蚀/刺激类别 1C, 严重眼损伤/眼刺激类别 1, 呼吸敏化类别 1, 皮肤敏化类别 1A, 特定目标器官毒性——重复接触类别 1(吸入, 呼吸系统)
全球统一制度标签要素, 包括防范说明:
符号:

信号词: 危险。
危险说明: 吞咽有害。造成严重皮肤灼伤和眼损伤。吸入可能导致过敏、哮喘病症状或呼吸困难。可能导致皮肤过敏反应。长期或重复接触会对器官造成损害(吸入, 呼吸系统)。防范说明:
预防:
作业后彻底清洗手部和……。勿触碰眼睛。使用本产品时不要进食、饮水或吸烟。戴防护手套/穿防护服/戴防护眼罩/防护面具。不要吸入粉尘/烟/气体/气雾/蒸汽/喷雾。[在通风不足的情况下]戴呼吸防护装置。受污染的工作服不得带出工作场地。
应对:
如误吞咽: 请就医。漱口。不得诱导呕吐。如皮肤(或头发)沾染: 立即脱掉所有沾染的衣服。立即用水冲洗几分钟。沾染的衣服清洗后方可重新使用。如出现皮肤刺激或皮疹: 请就医。专门治疗(见下文)。如误吸入: 将人转移到空气新鲜处, 保持呼吸舒适体位。立即紧急就医。专门治疗(见下文)。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。请就医。如感不适, 请就医。
存放:
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	化学文摘社编号(CAS No.)	浓度
顺丁烯二酸酐	108-31-6	99.72%

四、急救措施

不同暴露途径的急救方法

吸入: 迅速脱离现场至空气新鲜处。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。立即就医。

皮肤接触: 脱去污染的衣着, 用大量流动清水冲洗。就医。

眼睛接触: 立即提起眼睑, 用大量流动清水彻底冲洗至少 15 分钟。立即就医。

摄入: 用水漱口, 切勿催吐。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

适当的灭火剂: 可用泡沫、二氧化碳、雾状水等灭火。

化学品产生的具体危险: 在高温明火下燃烧分解, 释放出有毒气体。

消防人员的特殊防护行动: 消防人员必须配戴空气呼吸器、消防衣及防护手套, 在上风向灭火。灭火时尽可能将容器从火场移至空旷处, 使用喷雾状水保持火场内容器等冷却。

六、意外释放措施

人身防范、保护设备和应急程序: 建议应急处理人员戴防护口罩, 穿消防工作服。不要直接接触泄漏物。

环境防范措施: 隔离泄漏污染区, 限制出入。

抑制和清洁的方法和材料: 小量泄漏: 避免扬尘, 用洁净的铲子收集于干燥、洁净、有盖的容器中, 转移至安全场所。切勿使产品进入下水道等限制性区域。大量泄漏: 用塑料布、帆布覆盖。使用无火花工具收集回收或运至废物处理场所处置。

七、搬运和存储

安全搬运的防范措施: 密闭操作, 局部排风。操作人员必须经过专门培训, 严格遵守操作规程。建议操作人员佩戴防护面具, 穿防腐工作服, 戴橡胶手套。搬运时轻装轻卸, 防止包装破损。配备泄漏应急处理设备。倒空的容器可能残留有害物质。

安全存储的条件, 包括任何不相容性: 储存于阴凉、干燥、通风良好的库房。远离火种、热源。防止阳光直射。包装必须密封, 切勿受潮。应与氧化剂、碱类、易(可)燃物等分开存放, 切忌混储。储区应备有合适的材料收容泄漏物。

八、接触控制/人身保护

控制参数:				
	来源	物质名称	TWA	STEL
	中国工作场所有害因素职业接触限值	马来酸酐	1 mg/m ³	2 mg/m ³
适当的工程控制: 严加密闭, 提供充分的局部排风。				
个人防护措施				
防护眼罩/面具: 佩戴防护面具。				
皮肤防护: 穿防腐工作服。				
呼吸系统防护: 可能接触其粉尘时, 必须佩戴防尘面具(全面罩)。紧急事态抢救或撤离时, 应该佩戴空气呼吸器。充足容量的 A-P 种过滤器。				
高温危险: /				

九、物理和化学特性

物理状态	结晶固体。
颜色	白色。
气味	/
熔点/凝固点	53℃。
沸点或初始沸点及沸腾范围	202℃。
易燃性	/
上下爆炸极限/易燃极限	1.4%-7.1%。
闪点	102℃。
自燃温度	477℃。
分解温度	/
pH 值	/
运动黏度	/
可溶性	与水反应。
辛醇—水分配系数（对数值）	/
蒸气压	25Pa（25℃）。
密度和/或相对密度	1.43@15℃。
相对蒸气密度	3.38。
颗粒特征	/

十、稳定性和反应性

反应性: /
化学稳定性: 在常温下稳定。
危险反应的可能性: 水溶液是一种中强酸。可与强碱和强氧化剂反应。
应避免的条件: 火星、高温、静电。
不相容材料: 氧化剂、碱类、易（可）燃物。
具有危害性的分解产物: 碳氧化物。

十一、毒理学信息

暴露途径: 摄取（吞咽）、皮肤/眼接触、吸入。
有关物理、化学和毒理学特点的症状: /
急性毒性效应:
摄入会导致灼烧感、恶心、呕吐、腹痛等症状。
皮肤接触会导致皮肤发红、疼痛、烧伤。
吸入会导致咳嗽、咽喉疼痛、烧伤。
眼睛接触会导致刺激、疼痛、烧伤。
慢性毒性或长期毒性效应: 重复或长期接触可导致皮炎。重复或长期吸入可导致哮喘。
毒性的度量值（如急性毒性估计值）:
LD50(经口, 鼠): 400 mg/kg
LD50(经皮, 兔): 2620 mg/kg

十二、生态学信息

毒性（水生和陆生，如果有）:			
终点	测试持续时间 (小时)	种类	值
EC50	72h	藻类或其他水生植物	29mg/l

NOEC(ECx)	504h	甲壳纲动物	10mg/l
ErC50	72h	藻类或其他水生植物	29mg/l
EC50	48h	甲壳纲动物	42.81mg/l
LC50	96h	鱼	75mg/l

持久性和降解性: 高。

生物累积潜力: 低 (Log KOW = 1.6187)。

在土壤中的流动性: 高 (KOC = 1)。

其它有害效应: /

十三、处置考虑

处置方法: 用安全掩埋法处置。破损容器禁止重新使用, 要在规定场所掩埋。

十四、运输信息

联合国编号: 2215。

联合国正式运输名称: 熔融马来酸酐。

运输危险分类: 8。

包装类别 (如果适用): III。

环境危险: /

用户的特殊防范措施: /

按照海事组织文书运输散货: /

十五、管理信息

国内化学品安全法规: 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	2022-06-13

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: MOLTEN Maleic anhydride.

Other means of identification: 2,5-Furandione.

Recommended use of the chemical and restrictions on use: This product can be used for organic synthesis, also used as synthetic fiber intermediates.

Supplier's details:

Emergency phone number:

Section 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Acute toxicity, oral Category 4

Skin corrosion/irritation Category 1C

Serious eye damage/eye irritation Category 1

Sensitisation, respiratory Category 1

Sensitisation, skin Category 1A

Specific target organ toxicity, repeated exposure Category 1 (inhalation, respiratory system)

GHS Label elements, including precautionary statements:

Symbol:



Signal word: Danger

Hazard statement(s): Harmful if swallowed. Causes severe skin burns and eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. Causes damage to organs through prolonged or repeated exposure (inhalation, respiratory system).

Precautionary statement(s):

Prevention:

Wash hands [and...] thoroughly after handling. Do not touch eyes. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace.

Response:

If swallowed: Get medical help. Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Immediately rinse with water for several minutes. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical help. Specific treatment (see below). If inhaled: Remove person to fresh air and keep comfortable for breathing. Get emergency medical help immediately. Specific treatment (see below). If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help. Get medical help if you feel unwell.

Storage:

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
MOLTEN Maleic anhydride	108-31-6	99.72%

Section 4 FIRST AID MEASURES

Description of necessary first aid measures

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician immediately.

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

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

If ingestion: Rinse mouth with water. Do not induce vomit. Consult a physician.

Most important symptoms/effects, acute and delayed: /

Indication of immediate medical attention and special treatment needed, if necessary: /

Section 5 FIREFIGHTING MEASURES

Suitable extinguishing media: Use foam, carbon dioxide, water spray, etc.

Special hazards arising from the chemical: This material may burn and decompose at high temperature and fire and release toxic fumes.

Special protective actions for fire-fighters: Firefighters must wear air breathing apparatus, fire-fighting suits and protective gloves to extinguish in the upwind direction. Whenever possible, remove the container from the fire to open space and use spray water to cool unopened containers.

Section 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: It is recommended that emergency personnel wear protective masks and fire protective overalls. Do not touch the spill directly.

Environmental precautions: Isolate contaminated areas and restrict access.

Methods and materials for containment and cleaning up: Small amount of leakage: Avoid dusting, use a clean shovel to collect in a dry, clean, covered container and transfer to a safe place. Do not allow products to enter restricted areas such as sewers. A large amount of leakage: Cover with plastic sheeting and canvas. Use a non-sparking tool to collect the waste or transport it to a waste disposal site for disposal.

Section 7 HANDLING AND STORAGE

Precautions for safe handling: There should be sufficient local exhaust in workplace. Operators should be trained and strictly follow the operating procedures. Operators are advised to wear protective masks, corrosion-resistant protective clothing and rubber gloves. Operators should load and unload lightly during handling to prevent damage to the package. There should be leakage treatment equipment in workplace. There may be harmful residues in empty containers.

Conditions for safe storage, including any incompatibilities: Store in a cool, dry, well-ventilated warehouse. Keep away from fire and heat. Protect from direct sunlight. The package should be sealed and not exposed to moisture. It should be stored separately from oxidants, alkalis flammable materials, etc., and

should not be mixed. The storage area should be provided with suitable materials to contain spills.

Section 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Source	Material name	TWA	STEL
China Occupational Exposure Limits for Hazardous Agents in the Workplace	Maleic anhydride	1 mg/m ³	2 mg/m ³

Appropriate engineering controls: Close strictly and provide sufficient local exhaust.

Individual protection measures

Eye/face protection: Wear a protective mask.

Skin protection: Wear corrosion-resistant protective clothing.

Respiratory protection: A dust mask (full face mask) must be worn when exposed to dust. Air respirators should be worn during emergency rescue or evacuation. Type A-P Filter of sufficient capacity.

Thermal hazards: /

Section 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Crystalline solid
Colour	White
Odour	/
Melting point/freezing point	53°C
Boiling point or initial boiling point and boiling range	202°C
Flammability	/
Lower and upper explosion limit/flammability limit	1.4%-7.1%
Flash point	102°C
Auto-ignition temperature	477°C
Decomposition temperature	/
pH	/
Kinematic viscosity	/
Solubility	reacts with water
Partition coefficient: n-octanol/water (log value)	/
Vapour pressure	25Pa (25°C)
Density and/or relative density	1.43@15°C
Relative vapour density	3.38
Particle characteristics	/

Section 10 STABILITY AND REACTIVITY

Reactivity: /

Chemical stability: The material is stable in normal temperature.

Possibility of hazardous reactions: The solution in water is a medium strong acid. Reacts with strong bases and strong oxidants.

Conditions to avoid: Spark, high temperature and static electricity.

Incompatible materials: Oxidizers, alkalis and flammable materials.

Hazardous decomposition products: Oxycarbides.

Section 11 TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure: Ingestion (swallowing), skin/eye exposure and inhalation.

Symptoms related to the physical, chemical and toxicological characteristics: /

Acute health effects:

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

Skin contact can cause redness, pain and burn.

Inhalation can cause cough, throat pain and burn.

Eyes contact can cause irritation, pain and burn.

Chronic health effects: Repeated or prolonged contact may cause skin sensitization. Repeated or prolonged inhalation may cause asthma.

Numerical measures of toxicity (such as acute toxicity estimates):

LD50(oral, rat): 400mg/kg

LD50(dermal, rabbit): 2620 mg/kg

Section 12 ECOLOGICAL INFORMATION

Ecotoxicity (aquatic and terrestrial, where available):

Endpoint	Test Duration (hr)	Species	Value
EC50	72h	Algae or other aquatic plants	29mg/l
NOEC(ECx)	504h	Crustacea	10mg/l
ErC50	72h	Algae or other aquatic plants	29mg/l
EC50	48h	Crustacea	42.81mg/l
LC50	96h	Fish	75mg/l

Persistence and degradability: High.

Bioaccumulative potential: Low (Log KOW = 1.6187).

Mobility in soil: High (KOC = 1).

Other adverse effects: /

Section 13 DISPOSAL CONSIDERATIONS

Disposal methods: Dispose this product by safe burial. Damaged containers are prohibited from being reused and should be buried in the prescribed place.

Section 14 TRANSPORT INFORMATION

UN number: 2215.

UN proper shipping name: MALEIC ANHYDRIDE, MOLTEN.

Transport hazard class(es): 8.

Packing group, if applicable: III.

Environmental hazards: /

Special precautions for user: /

Transport in bulk according to IMO instruments: /

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	UN Recommendations on the Transport of Dangerous Goods Model Regulations UN Globally Harmonized System of Classification and Labelling of Chemicals
Form Date	13-June-2022

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 or no data available (such as boiling point does not exist for the solid) in the table with "/" logo.