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编制报告

DRAW UP REPORT

编号 (No): 37000010192109729

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样品名称	中文名称	异丁醛	
	英文名称	Isobutyraldehyde	
委托单位	聊城鲁西多元醇新材料科技有限公司		
生产单位	聊城鲁西多元醇新材料科技有限公司		
委托项目	安全数据单 (中英文) 编制		
样品组分 (企业申报)	异丁醛含量 99.6%, 其余为水分和杂质。		
编制依据	联合国《关于危险货物运输的建议书 规章范本》(第二十修订版) 联合国《全球化学品统一分类和标签制度》(第七修订版)		
编制地点	青岛市黄岛区黄河东路 99 号	委托日期	2019-11-04

结论

根据客户委托要求, 按照联合国《关于危险货物运输的建议书·规章范本》和《全球化学品统一分类和标签制度》的相关规定进行了安全数据单的编制, 中文样本见附件1, 英文样本见附件2。

授权签字人:

印章:



签发日期: 2019-11-28



注: 1. 无实验室盖章, 此报告无效。流水号: 5551。

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: 异丁醛。

其它标识办法: 2-甲基-1-丙醛。

化学品使用建议和使用限制: 本品可用于制造橡胶促进剂和防老剂, 也可作为食用香料。

供货商的详细情况: 聊城鲁西多元醇新材料科技有限公司。

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 2

急毒性(口服)类别 4

皮肤腐蚀/刺激类别 3

严重眼损伤/眼刺激类别 2

生殖细胞致突变性类别 2

危害水生环境(急性)类别 3

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: 高度易燃液体和蒸气。吞咽有害。造成轻微皮肤刺激。造成严重眼刺激。怀疑会导致遗传性缺陷。对水生生物有害。

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。保持容器密闭。容器和装载设备接地并等势联接。使用防爆的[电气/通风/照明/……]设备。使用不产生火花的工具。采取防止静电放电的措施。戴防护手套/穿防护服/戴防护眼罩/戴防护面具/戴听力防护装置。作业后彻底清洗……。使用本产品时不要进食、饮水或吸烟。使用前取得专用说明书。在阅读并明了所有安全措施前切勿搬动。避免释放到环境中。

反应:

万一起火, 使用二氧化碳、泡沫、干粉灭火。如误吞咽: 如感觉不适, 呼叫中毒急救中心/医生。漱口。如皮肤(或头发)沾染: 立即脱掉所有沾染的衣服。用水清洗皮肤/淋浴。如出现皮肤刺激: 求医/就诊。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。如仍觉眼刺激: 求医/就诊。如已接触或有疑虑: 求医/就诊。

贮存:

存放于通风良好处。保持低温。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.)	成分(由送检企业提供)
异丁醛	78-84-2	99.6%

## 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。就医。

皮肤接触: 脱去污染的衣着, 用大量流动清水冲洗。

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。就医。

摄入: 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

适当的灭火剂: 可用干粉、泡沫、二氧化碳灭火。

化学品产生的具体危险: 高度易燃液体, 其蒸汽可与空气形成爆炸性混合物, 遇高热、明火可起火爆炸, 释放出毒性气体。

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: 用砂土或其它惰性材料吸附或吸收。切勿使产品进入下水道等限制性区域。大量泄漏: 构筑围堤或挖坑收容。用防爆泵转移至槽车或专用收集器内, 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口罩, 穿普通防护服, 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。

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。应与易(可)燃物、氧化剂、还原剂和碱类等分开存放, 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: /

适当的工程控制: 严加密闭, 提供充分的局部排风。

个人保护措施

防护眼罩/面具: 戴防护口罩。

皮肤防护: 穿普通防护服。

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。



高温危险: /

## 九、物理和化学特性

外观 (物理状态、颜色等)	无色透明液体。
气味	/
气味阈值	/
pH 值	/
熔点/凝固点	-65℃。
初始沸点和沸腾范围	63~64℃。
闪点	≤18.0℃。
蒸发速率	/
易燃性 (固态、气态)	/
上下易燃极限或爆炸极限	1.6%~10.6%。
蒸气压力	15.3kPa (20℃)。
蒸气密度	2.5。
相对密度	0.788 (20℃)。
可溶性	6.7g/100mL (20℃)。
分配系数: 正辛醇/水	1.2。
自动点火温度	165℃。
分解温度	/
粘度	0.7 mm <sup>2</sup> /s (28℃)。

## 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: 加热或燃烧时该物质分解生成辛辣烟雾。可与氧化剂、强还原剂和强碱发生反应。

应避免的条件: 火星、高温、静电。

不相容材料: 易燃或可燃物、强碱、还原剂、氧化剂。

危险分解产物: 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:

摄入会导致恶心、呕吐、腹痛等症状。

皮肤接触会导致发红、刺激。

吸入会导致咳嗽、咽喉刺激。

眼睛接触会导致发红、刺激。

慢性毒性或长期毒性效应: 重复或长期吸入本品蒸汽可导致上呼吸道慢性炎症。

毒性的数值度量 (如急性毒性估计值):

LD50(经口, 鼠): 960 mg/kg

LD50(经皮, 兔): &gt;2000 mg/kg

LC50(吸入, 小鼠): 19.75 mg/l/2h



## 十二、生态学信息

## 毒性:

终点	测试持续时间 (小时)	种类	值
LC50	96	鱼	15.029mg/L
EC50	48	甲壳纲动物	277mg/L
EC50	72	藻类或其他水生植物	83.7mg/L
EC20	72	藻类或其他水生植物	51mg/L

持久性和降解性: 低 (半衰期 = 14 天)。

生物累积潜力: 低 (LogKOW = 0.7428)。

在土壤中的流动性: 低 (KOC = 4.272)。

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: 2045。

联合国正式运输名称: 异丁醛。

运输危险分类: 3。

包装类别 (如果适用): II。

环境危险: /

用户的特殊防范措施: /

## 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 18218-2009、GB 15258-2009、GB 6944-2012、GB 190-2009、GB/T 191-2008、GB 12268-2012、GA 57-1993、GB/T 15098-2008、GBZ 2.1-2007、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	2019-11-28

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:** Isobutyraldehyde.

**Other means of identification:** 2-Methylpropanal.

**Recommended use of the chemical and restrictions on use:** This material can be used to produce rubber accelerator and aging inhibitor. It can also be used as food perfume.

**Supplier's details:**

**Emergency phone number:** /

## Section 2 HAZARDS IDENTIFICATION

**Classification of the substance or mixture:**

Flammable liquids Category 2

Acute toxicity, oral Category 4

Skin corrosion/irritation Category 3

Serious eye damage/eye irritation Category 2

Germ cell mutagenicity Category 2

Hazardous to the aquatic environment, acute hazard Category 3

**GHS Label elements, including precautionary statements:**

Symbol:



Signal word: Danger

Hazard statement(s): Highly flammable liquid and vapor. Harmful if swallowed. Causes mild skin irritation. Causes serious eye irritation. Suspected of causing genetic defects. Harmful to aquatic life.

Precautionary statement(s):

Prevention:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting/...] equipment. Use only non-sparking tools. Take precautionary measures against static discharge. 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. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid release to the environment.

Response:

In case of fire: Use carbon dioxide, foam or dry powder to extinguish. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. 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 advice/attention. If exposed or concerned: Get medical advice/attention.

Storage:



Store in a well-ventilated place. Keep cool. 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%
Isobutyraldehyde	78-84-2	99.6%

### 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.

**In case of skin contact:** Remove contaminated clothing and rinse with plenty of running water.

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

**If ingestion:** Rinse mouth with water. 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 dry powder, foam or carbon dioxide.

**Special hazards arising from the chemical:** Liquid and vapour are highly flammable. May explode and burn in 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: adsorption with sand or other inert materials. Do not allow products to enter restricted areas such as sewers. A large amount of leakage: building a dike or digging a pit to contain. Transfer to a tank truck or special collector with an explosion-proof pump and transport 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, normal 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 flammable materials, oxidants, reducers and alkalis, 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:** /

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

**Individual protection measures**

**Eye/face protection:** Wear a protective mask.

**Skin protection:** Wear normal protective clothing.

**Respiratory protection:** Air respirators should be worn during emergency rescue or evacuation.

**Thermal hazards:** /

## Section 9 PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance (physical state, colour etc)</b>	Colorless transparent liquid.
<b>Odour</b>	/
<b>Odour Threshold</b>	/
<b>pH</b>	/
<b>Melting point/freezing point</b>	-65°C.
<b>Initial boiling point and boiling range</b>	63~64°C.
<b>Flash point</b>	≤18.0°C.
<b>Evaporation rate</b>	/
<b>Flammability (solid, gas)</b>	/
<b>Upper/lower flammability or explosive limits</b>	1.6%~10.6%.
<b>Vapour pressure</b>	15.3kPa (20°C).
<b>Vapour density</b>	2.5.
<b>Relative density</b>	0.788 (20°C).
<b>Solubility(ies)</b>	6.7g/100mL (20°C).
<b>Partition coefficient: n-octanol/water</b>	1.2.
<b>Auto-ignition temperature</b>	165°C.
<b>Decomposition temperature</b>	/
<b>Viscosity</b>	0.7 mm <sup>2</sup> /s (28°C).

## Section 10 STABILITY AND REACTIVITY

**Reactivity:** /

**Chemical stability:** This material is stable in normal temperature.

**Possibility of hazardous reactions:** Decomposes on heating and on burning. This produces acrid smoke and fumes. Reacts with oxidants, strong reducing agents and strong bases.

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

**Incompatible materials:** Flammable materials, strong alkalis, reducing agents and oxidizers.

**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 nausea, vomiting and abdominal pain.

Skin contact can cause redness and irritation.

Inhalation can cause cough, throat irritation.

Eyes contact can cause redness and irritation.

**Chronic health effects:** Repeated or chronic inhalation of the vapour may cause chronic inflammation of the upper respiratory tract.

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

LD50(oral, rat): 960 mg/kg

LD50(dermal, rabbit): >2000 mg/kg

LC50(inhalation, mouse): 19.75 mg/l/2h

#### Section 12 ECOLOGICAL INFORMATION

**Toxicity:**

Endpoint	Test Duration (hr)	Species	Value
LC50	96	Fish	15.029mg/L
EC50	48	Crustacea	277mg/L
EC50	72	Algae or other aquatic plants	83.7mg/L
EC20	72	Algae or other aquatic plants	51mg/L

**Persistence and degradability:** Low (Half-life = 14 days).

**Bioaccumulative potential:** Low (LogKOW = 0.7428).

**Mobility in soil:** Low (KOC = 4.272).

**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:** 2045.

**UN proper shipping name:** ISOBUTYRALDEHYDE.

**Transport hazard class(es):** 3.

**Packing group, if applicable:** II.

**Environmental hazards:** /

**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 18218-2009, GB 15258-2009, GB 6944-2012, GB 190-2009, GB/T 191-2008, GB 12268-2012, GA 57-1993, GB/T 15098-2008, GBZ 2.1-2007, GBZ 2.2-2007 as well as the following national regulations: Dangerous Goods Transport Administrative Regulation [Published by the Ministry of Railways, 2008], Dangerous Chemicals Safety Administrative Regulation [Published by the