编　　码：

产品名称：甲酸

危险

儿童不得触及。

使用前请读标签。

易燃液体和蒸气。吞咽有害。吸入有害。造成严重皮肤灼伤和眼损伤。吸入可能导致过敏或哮喘病症状或呼吸困难。怀疑对生育能力或胎儿造成伤害。对器官造成损害。长期或重复接触会对器官造成损害。对水生生物有害。

预防：

远离热源/火花/明火/热表面。禁止吸烟。保持容器密闭。容器和装载设备接地/等势联接。使用防爆的电气/通风/照明/……/设备。只能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。作业后彻底清洗…… 使用本产品时不要进食、饮水或吸烟。避免吸入粉尘/烟/气体/烟雾/蒸气/喷雾。只能在室外或通风良好之处使用。不要吸入粉尘/烟/气体/烟雾/蒸气/喷雾。[在通风不足的情况下]戴呼吸防护装置。使用前取得专用说明。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：

火灾时：使用……灭火。如误吞咽：如感觉不适，呼叫解毒中心或医生/……。漱口。不得诱导呕吐。如误吸入：将受害人转移到空气新鲜处，保持呼吸舒适体位。立即呼叫解毒中心或医生/……。具体治疗（见安全数据单）。如有呼吸系统病症：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。沾染的衣服清洗后方可重新使用。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。立即呼叫解毒中心或医生/……。如接触到或有疑虑：求医/就诊。呼叫解毒中心或医生/……。具体治疗（见安全数据单）。

储存

存放在通风良好的地方。保持低温。存放处须加锁。

处置：

处置内装物/容器……。

化学品安全数据单

一、标识

全球统一制度产品标识符：工业甲酸/ Formic acid。
其它标识办法：蚁酸。
化学品使用建议和使用限制：本品可用于农药、皮革、染料、医药和橡胶等工业。
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：
急性毒性（口服）第 4 类
急性毒性（吸入）第 4 类
皮肤腐蚀/刺激第 1B 类
严重眼损伤/眼刺激第 1 类
特定目标器官毒性——单次接触第 1 类（吸入，血液、肾、呼吸系统）
特定目标器官毒性——重复接触第 2 类（吸入，上呼吸道）
危害水生环境（急性）第 3 类。
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：吞咽有害。吸入有害。造成严重皮肤灼伤和眼损伤。会损害器官（吸入，血液、肾、呼吸系统）。长期或重复接触可能损害器官（吸入，上呼吸道）。对水生生物有害。
防范说明：
预防：
作业后彻底清洗双手。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/戴防护面具。不要吸入粉尘/烟/气体/气雾/蒸汽/喷雾。只能在室外或通风良好处使用。避免释放到环境中。
反应：
如误吞咽：如感觉不适，呼叫解毒中心或医生。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。用水清洗皮肤/淋浴。沾染的衣服清洗后方可重新使用。如误吸入：将人转移到空气新鲜处，保持呼吸舒适的休息姿势。立即呼叫解毒中心或医生。具体治疗（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。立即呼叫解毒中心或医生。如接触到或有疑虑：呼叫解毒中心或医生。具体治疗（见下文）。如感觉不适，求医/就诊。
贮存：
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）
甲酸	64-18-6	75.5%
水	7732-18-5	24.5%

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，用大量流动清水或生理盐水彻底冲洗至少 15 分钟。就医。

摄入：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：可用干粉、抗溶性泡沫、大量水雾等灭火。

化学品产生的具体危险：可燃液体，其蒸汽可与空气形成爆炸性混合物，遇高热、明火有起火爆炸的危险。

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。然后根据着火原因选择适当灭火剂灭火。

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、搬运与储存

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，戴化学安全防护眼镜，穿防酸碱工作服，戴橡胶耐酸碱手套。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。应与氧化剂、碱类、酸类、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 甲酸　　10 (mg/m^3)　20 (mg/m^3) **适当的工程控制：**严加密闭，提供充分的局部排风。 **个人保护措施** **防护眼罩/面具：**佩戴防护口罩。 **皮肤防护：**穿防酸碱工作服。 **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。 **高温危险：**/

九、物理及化学性质

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	/
初始沸点和沸腾范围	/
闪点	>95.0℃。
蒸发速率	/
易燃性（固态、气态）	/
上下易燃极限或爆炸极限	/
蒸气压力	/
蒸气密度	/
相对密度	/
可溶性	与水混溶。
分配系数：正辛醇/水	/
自动点火温度	/
分解温度	/
粘度	/

十、稳定及反应性

反应性：/ **化学稳定性：**在常温下稳定。 **危险反应的可能性：**加热和与强酸（硫酸）接触时，该物质分解生成一氧化碳。该物质是一种中强酸。与氧化剂激烈反应。与强碱激烈反应，有着火和爆炸的危险。腐蚀许多塑料和金属。 **应避免的条件：**高温、火星、静电。 **不相容材料：**氧化剂、易燃或可燃物、强酸、强碱。 **危险分解产物：**一氧化碳、二氧化碳。

十一、毒理学信息

暴露途径：吸入、食入、经皮吸收、眼睛接触。 **有关物理、化学和毒理学特点的症状：**/ **急性毒性效应：**吸入后会导致咳嗽、咽喉疼痛、严重烧伤。皮肤接触会导致皮肤发红、刺激、严重烧伤。眼睛接触后会导致发红、刺激、严重烧伤。食入会导致灼烧感、咽喉痛、腹痛、

呕吐等症状。
慢性毒性或长期毒性效应：本物质可能引起眼睛严重刺激，导致明显的炎症。多次或持续接触刺激物能导致结膜炎。长期或多次接触本物质可引起皮肤发炎，接触后可引起皮肤发红、肿胀、形成水疱、脱皮和皮肤肥厚，还可能对呼吸系统造成损害。
毒性的数值度量（如急性毒性估计值）：
LD50(Oral, rat): 730 mg/kg
LC50(Inhalation, rat): 15 mg/L 15min

十二、生态信息

毒性：对水生生物有害。
持久性和降解性：低。
生物累积潜力：低。
在土壤中的流动性：高。
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：3412。
联合国正式运输名称：甲酸，按重量含酸 10%-85%。
运输危险分类：8。
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

国内化学品安全管理法规：本化学品安全数据单遵照了以下相关国家标准：GB 16483-2008、GB 13690-2009、GB 6944-2012、GB/T 15098-2008、GB 18218-2009、GB 15258-2009、GB 190-2009、GB 191-2009、GB 12268-2008、GA 57-1993、GBZ 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	2015-6-29

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: Formic acid.

Other means of identification: Methanoic acid.

Recommended use of the chemical and restrictions on use: This material can be used in pesticide, leather, dye, medicine, rubber industry, etc.

Supplier's details: /

Emergency phone number: /

Section 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Acute toxicity, oral Category 4

Acute toxicity, inhalation Category 4

Skin corrosion/irritation Category 1B

Serious eye damage/eye irritation Category 1

Specific target organ toxicity, single exposure Category 1 (inhalation, blood, kidneys, respiratory system)

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

Hazardous to the aquatic environment, acute hazard Category 3

GHS Label elements, including precautionary statements:

Signal word: Danger

Hazard statement(s): Harmful if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage. Causes damage to organs (inhalation, blood, kidneys, respiratory system). Causes damage to organs through prolonged or repeated exposure (inhalation, upper respiratory tract). Harmful to aquatic life.

Precautionary statement(s):

Prevention:

Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Response:

If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor. Specific treatment (see under for further information). If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison

center/doctor. If exposed or concerned: Call a poison center/doctor. Specific treatment (see under for further information). Get medical advice/attention 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%
Formic acid	64-18-6	75.5%
Water	7732-18-5	24.5%

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: 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 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, chemical powder or water spray.
Special hazards arising from the chemical: Liquid and vapour are flammable. May burn in high temperature and fire and release toxic fumes.
Special protective actions for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary. Use water spray to cool unopened containers. In case of fire in the surroundings, use appropriate extinguishing media.

Section 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.
Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods and materials for containment and cleaning up: Contain spillage and collect with pump and place in a clean container for disposal according to local regulations.

Section 7 HANDLING AND STORAGE

Precautions for safe handling: Wear protective gloves/eye protection/face protection/protective clothing. Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking.

Conditions for safe storage, including any incompatibilities: Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from flammable materials, acids, alkalis and oxidizers.

Section 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Source	Material name	TWA	STEL
China Occupational Exposure Limits for Hazardous Agents in the Workplace	Formic acid	10 (mg/m^3)	20 (mg/m^3)

Appropriate engineering controls: Local exhaust ventilation or a process enclosure ventilation system may be required.

Individual protection measures

Eye/face protection: Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.

Skin protection: Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber. Impervious clothing,

Respiratory protection: Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant.

Thermal hazards: /

Section 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, colour etc)	Colorless transparent liquid.
Odour	/
Odour Threshold	/
pH	/
Melting point/freezing point	/
Initial boiling point and boiling range	/
Flash point	>95.0℃.
Evaporation rate	/
Flammability (solid, gas)	/
Upper/lower flammability or explosive limits	/
Vapour pressure	/
Vapour density	/
Relative density	/
Solubility(ies)	Miscible in water.
Partition coefficient: n-octanol/water	/
Auto-ignition temperature	/
Decomposition temperature	/
Viscosity	/

Section 10 STABILITY AND REACTIVITY

Reactivity: /

Chemical stability: This material is stable in normal temperature.

Possibility of hazardous reactions: Decomposes on heating and on contact with strong acids. This produces carbon monoxide. The substance is a medium strong acid. Reacts violently with oxidants. Reacts violently with strong bases. This generates fire and explosion hazard. Attacks many plastics and metals.

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

Incompatible materials: Flammable materials, oxidizer, strong acid and strong alkali.

Hazardous decomposition products: Oxycarbides.

Section 11 TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure: Inhaled, swallowed, skin, eyes.

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

Acute health effects: Accidental ingestion of the material may be corrosive and cause cough and throat pain. Oral intake may cause headache, giddiness, vomit and other symptoms. This material may produce skin and eyes burn.

Chronic health effects: The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterized by skin redness (erythema) and swelling epidermis. Repeated or prolonged exposure to this material may damage respiratory system.

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

LD50(Oral, rat): 730 mg/kg

LC50(Inhalation, rat): 15 mg/L 15min

Section 12 ECOLOGICAL INFORMATION

Toxicity: Harmful to aquatic life.

Persistence and degradability: Low.

Bioaccumulative potential: Low.

Mobility in soil: High.

Other adverse effects: /

Section 13 DISPOSAL CONSIDERATIONS

Disposal methods: Burial in a land-fill specifically licensed to accept chemical. Reuse of broken container is forbidden.

Section 14 TRANSPORT INFORMATION

UN number: 3412.

UN proper shipping name: FORMIC ACID with not less than 10% but not more than 85% acid by mass.

Transport hazard class(es) : 8.

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 16483-2008, GB 13690-2009, GB/T 15098-2008, GB 18218-2009, GB 15258-2009, GB 6944-2012, GB 190-2009, GB 191-2009, GB 12268-2008, GA 57-1993, GBZ 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 State Council, 2011].

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	29-June-2015

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.

甲酸，按重量含酸 10%-85%

FORMIC ACID with not less than 10% but not more than 85% acid by mass

UN 3412