

# UCHGV[ 'F CVC'UJ GGVU'

Ceeqtf lpi 'vq'vj g'WP 'I J U't gxlukqp'! "

Xgtukqp<30#"  
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## 30 UGEVKQP '3<Kf gpvllhec vkqp

### 300 I J U'Rt qf wev'lf gpvllgt "

Rt qf wev'pco g" 6(2)-methylcyclohexane-1,3-diamine

#### 1.2. Other means of identification

Product number -

Other names

#### 1.3. Recommended use of the chemical and restrictions on use

Identified uses Industrial and scientific research uses.

Uses advised against no data available

#### 1.4. Supplier's details

Company Henan leibairui New Material Technology Co., Ltd

Address North of the road 1km west of the intersection of  
Jianshe Road and pushui Road, Puyang  
City, Henan Province 450001, China

Telephone 86-393-4471239

#### 1.5. Emergency phone number

Emergency phone number 86-393-4471239

Service hours 24 hours

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## 2. SECTION 2: Hazard identification

### 2.1. Classification of the substance or mixture

Flammable liquids: classification 4

Acute toxicity - Category 4, Oral

Skin corrosion, Sub-category 1B

Serious eye damage, Category 1

Classification of acute hazards to water environment 3

### 2.2. GHS label elements, including precautionary statements

Pictogram(s)



Signal word Danger

**Hazard statement(s)** H302 Harmful if swallowed  
H314 Causes severe skin burns and eye damage  
H402 Harmful to aquatic life.  
H227 Flammable liquid.

**Precautionary statement(s)**

**Prevention** P210 Keep away from heat / sparks / open flames / hot surfaces. -No smoking  
P264 Wash ... thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P273 Avoid leakage into the environment.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

**Response** P310 Call a poison center or see a doctor immediately  
P305+P351+P338 f in contact with eyes: turn the eyelids carefully and rinse with water for several minutes. If convenient, continue to rinse after removing contact lenses.  
P3013+P361+P352 In case of skin (or hair): remove / remove contaminated clothing immediately. Rinse with plenty of soap and water.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P370+P378 In case of fire, use water spray, dry powder, foam or carbon dioxide to extinguish fire.

**Storage** P405 Store locked up.

P403+P235 Store well ventilated. Keep cool.

**Disposal** P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**2.3. Other hazards which do not result in classification**

This section provides other applicable hazard information that does not affect the classification but may affect the overall hazard of the substance or mixture.

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**3. SECTION 3: Composition/information on ingredients**

**3.1. Substances**

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
2-methylcyclohexane-1,3-diamine	2-methylcyclohexane-1,3-diamine	13897-56-8	237-667-4	99.5%
4-methylcyclohexane-1,3-diamine	4-methylcyclohexane-1,3-diamine	13897-55-7	None	

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## **4. SECTION 4: First-aid measures**

### **4.1. Description of necessary first-aid measures**

Remove contaminated clothing immediately.

If there is a risk of loss of consciousness, the patient should be transported away in a recoverable position. If necessary, give artificial respiration.

First aid personnel should pay attention to their own safety.

#### **If inhaled**

Inhalation: if inhaled, move the patient to fresh air.

Skin contact: remove contaminated clothing, wash skin thoroughly with soapy water and water, and seek medical advice.

Eye clear contact: separate eyelids and rinse with flowing water or normal saline. See a doctor immediately.

Ingestion: gargle with plenty of water and then drink plenty of water. See a doctor immediately.

### **4.2. Notes for doctors:**

Symptoms: the most important known symptoms and hazards are described in the label (see Chapter 2) and / or Chapter 11. Further symptoms may occur

Treatment: symptomatic treatment (remove dirt, pay attention to life symptoms), no specific antidote.

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## **5. SECTION 5: Fire-fighting measures**

### **5.1. Suitable extinguishing media**

Use water mist, dry powder, foam or carbon dioxide extinguishing agent to extinguish fire.

### **5.2. Specific hazards arising from the chemical**

Carbon monoxide, carbon dioxide, nitrogen

The substances / substance groups mentioned will be released in case of fire.

### **5.3. Special protective actions for fire-fighters**

Fire fighters must wear breathing apparatus and full-length fire-fighting clothing to put out the fire in the upwind direction.

Move the container from the fire to an open area as far as possible.

If the containers in the fire scene have changed color or sound from the safety pressure relief device, they must be evacuated immediately.

Isolate the scene of the accident and prohibit irrelevant personnel from entering.

Collect and treat fire water to prevent environmental pollution.

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## **6. SECTION 6: Accidental release measures**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Avoid inhalation. Avoid contact with skin, eyes and clothing.

It is suggested that emergency treatment personnel should wear air breathing apparatus, anti-static clothing and rubber oil resistant gloves.

Do not touch or cross the leakage.

All equipment used in operation shall be grounded.

Cut off the leakage source as much as possible.

Eliminate all sources of ignition.

According to the influence area of liquid flow, steam or dust diffusion, the warning area shall be defined, and the irrelevant personnel shall be evacuated to the safety area from the crosswind and upwind direction.

## **6.2. Environmental precautions**

Take in leakage to avoid environmental pollution. Prevent leakage from entering sewers, surface water and groundwater.

## **6.3. Methods and materials for containment and cleaning up**

Small amount of leakage: collect the leaking liquid in airtight container as much as possible. Absorb with sand, activated carbon or other inert materials and transfer to a safe place. Do not flush into sewers.

Large amount of leakage: build a dike or dig a pit to contain it. Close the drain.

Foam is used to cover evaporation. Transfer to tank car or special collector with explosion-proof pump, recycle or transport to waste disposal site for disposal.

Clean contaminated floors and objects thoroughly with water and surfactants.

Collect waste in suitable containers, label and seal. Incinerate or send to special waste treatment station.

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# **7. SECTION 7: Handling and storage**

## **7.1. Precautions for safe handling**

The operators shall be specially trained and strictly abide by the operation regulations.

The operation and disposal should be carried out in the place with local ventilation or comprehensive ventilation facilities.

Avoid eye and skin contact and inhalation of steam.

See Section 8 for personal protection measures.

Keep away from fire and heat sources. Smoking is strictly prohibited in the workplace.

Use explosion-proof ventilation system and equipment.

If it needs to be canned, the flow rate should be controlled, and there should be grounding device to prevent the accumulation of static electricity.

Avoid contact with prohibited compounds such as oxidants (see section 10 for prohibited compounds).

When handling, it should be light loading and unloading to prevent damage to the packaging and containers.

The empty container may contain harmful substances.

Wash hands after use. Do not eat or drink in the workplace.

Fire fighting equipment and leakage emergency treatment equipment of corresponding variety and quantity shall be provided.

## **7.2. Conditions for safe storage, including any incompatibilities**

Store in a cool and ventilated warehouse.

Suitable for container materials: glass, carbon steel (iron), high density polyethylene.

The storage temperature should not exceed 50 °C.

It should be stored separately from oxidants and food chemicals, and should not be mixed (see section 10 for prohibited substances).

Keep the container sealed.

Keep away from fire and heat sources.

The warehouse must be equipped with lightning protection equipment.

The exhaust system shall be equipped with grounding device for electrostatic discharge.

Explosion proof lighting and ventilation are adopted.

It is forbidden to use equipment and tools that are prone to spark.

The storage area shall be equipped with leakage emergency treatment equipment and appropriate materials.

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## **8. SECTION 8: Exposure controls/personal protection**

### **8.1. Control parameters**

#### **Occupational Exposure limit values**

no data available

#### **Biological limit values**

no data available

### **8.2. Appropriate engineering controls**

It is suggested that the workplace should be separated from other workplaces.

Closed operation to prevent leakage.

Strengthen ventilation.

Set up automatic alarm device and accident ventilation facilities.

Emergency evacuation channel and necessary risk reduction area shall be set up.

Set up red area warning line, warning sign and Chinese warning instruction, and set up communication alarm system.

Provide safety shower and eye wash equipment.

### **8.3. Individual protection measures, such as personal protective equipment (PPE)**

#### **Respiratory system protection**

when the concentration in the air exceeds the standard, wear a filter type gas mask (half mask). Emergency rescue or evacuation

#### **When leaving, you should wear a portable respirator**

suitable for organic compounds (boiling point > 65 °C) gas / vapor Gas filter.

#### **Hand protection**

wear rubber oil resistant gloves (impermeability time > 480min), such as nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinyl chloride (0.7 mm).

#### **Eye protection**

safety glasses (bracket type goggles) (en166) and face shield close to the face.

Skin and body protection: wear work clothes against poison penetration.

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## 9. SECTION 9: Physical and chemical properties and safety characteristics

<b>Physical state</b>	liquid
<b>Colour</b>	Colorless to yellowish
<b>Odour</b>	Slightly ammonia
<b>Melting point/freezing point</b>	-92°C
<b>Boiling point or initial boiling point and boiling range</b>	210°C at 760 mmHg
<b>Flammability</b>	no
<b>Lower and upper explosion limit/flammability limit</b>	no data available
<b>Flash point</b>	80°C
<b>Auto-ignition temperature</b>	329°C
<b>Thermal decomposition</b>	> 180 kJ / kg higher than the specified temperature may occur thermal decomposition. Above the decomposition temperature, the product can release toxic vapor. It will not decompose if used as directed. Non self degradable substances.
<b>pH</b>	12.8 (10% ) m
<b>Kinematic viscosity</b>	7 mPa·s at 20°C
<b>Solubility</b>	It is miscible with water in any ratio and soluble with acetone tetrahydrofuran
<b>Partition coefficient n-octanol/water</b>	no data available
<b>Vapour pressure</b>	0.17 百 Pa at 20°C 1.7 百 Pa at 50°C
<b>Density and/or relative density</b>	0.905 g/cm <sup>3</sup>
<b>Relative vapour density</b>	no data available
<b>Particle characteristics</b>	no data available

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## 10. SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is stable when stored and used at normal ambient temperature

### 10.2. Chemical stability

stable

### 10.3. Possibility of hazardous reactions

It reacts with acids and strong oxidants. It reacts with hydrochloric acid. Exothermic. The chemical property of the product is stable

### 10.4. Conditions to avoid

Electrostatic discharge, heat, moisture, etc

### **10.5. Incompatible materials**

Strong oxide, strong acid

### **10.6. Hazardous decomposition products**

Carbon monoxide, carbon dioxide, nitrogen oxide

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## **11. SECTION 11: Toxicological information**

### **Acute toxicity**

Acute toxicity evaluation: moderate toxicity after a single intake. In fact, a single skin contact is non-toxic. Inhalation of a high concentration / saturated vapor air mixture is unlikely to present an acute hazard.

Experimental / calculated data: median lethal dose to rats (oral): approximately 1276.1 mg / kg product not tested. This claim is based on the properties of individual components.

Non lethal concentration rats (inhalation): 8h (IRT)

No death was observed. The product has not been tested. This claim is based on the properties of individual components.

> 3420 mg / rat skin

The product has not been tested. State that it comes from a substance or product of similar composition or structure.

### **Skin corrosion/irritation**

Corrosive! It can damage skin and eyes

### **Serious eye damage/irritation**

Irreversible damage

### **Respiratory or skin sensitization**

Mouse local lymph node test (LLNA) mice: no sensitization

### **Germ cell mutagenicity**

No mutagenic effect was found in many experiments on bacterial and mammalian cell cultures

### **Carcinogenicity**

no data available

### **Reproductive toxicity**

Animal studies have shown no damage to fertility

### **STOT-single exposure**

According to the available information, there is no specific target organ toxicity of a single exposure

### **STOT-repeated exposure**

After repeated administration, no organ specific toxicity was observed

### **Aspiration hazard**

No inhalation injury is expected

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## **12. SECTION 12: Ecological information**

### **12.1. Toxicity**

- Toxicity to fish: LC50 (96 h) > 120 mg / L

- Toxicity to daphnia and other aquatic invertebrates: The half effective concentration (48 h) was 34.1 mg / L. Daphnia magna
- Toxicity to algae: 20% effective concentration (3 h) 180 mg / L, in activated sludge, domestic sewage, the details of aerobic toxic effect are related to the rated concentration
- Toxicity to microorganisms: No detection influence concentration(21d), 3.2 mg / L. Daphnia magna

### **12.2. Persistence and degradability**

Biochemical oxygen demand of < 3% theoretical oxygen demand. (28 days)

### **12.3. Bioaccumulative potential**

No significant bioaccumulation effect was foreseen

### **12.4. Mobility in soil**

**12.5.** It has no adsorption to solid soil phase

### **12.6. Other adverse effects**

no data available

## **13. SECTION 13: Disposal considerations**

### **13.1. Disposal methods**

#### **Product**

Recycle as much as possible.

If it can not be recycled, incineration method is adopted for disposal.

Do not dispose of the product by discharging into the sewer.

#### **Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## **14. SECTION 14: Transport information**

### **14.1. UN Number**

UN 2735

### **14.2. UN Proper Shipping Name**

Amine, liquid, corrosive, n.o.s. (containing 4 (2) - methylcyclohexane-1,3-diamine)

### **14.3. Transport hazard class(es)**

8

### **14.4. Packing group, if applicable**

II

### **14.5. Environmental hazards**

No

### **14.6. Special precautions for user**



The transport vehicles shall be equipped with corresponding types and quantities of fire fighting equipment and leakage emergency treatment equipment.

It is strictly forbidden to mix loading and transportation with oxidants and edible chemicals.

The exhaust pipe of the vehicle carrying the article must be equipped with fire arresting device.

When using the tank (tank) for transportation, there should be grounding chain, and hole partition can be set in the tank to reduce vibration and static electricity.

It is forbidden to use mechanical equipment and tools that are easy to produce sparks for loading and unloading.

It's better to transport early and late in summer.

During transportation, it should be protected from the sun, rain and high temperature.

During stopover, keep away from fire, heat source and high temperature area.

Road transportation should be in accordance with the prescribed route, do not stay in residential areas and densely populated areas.

It is forbidden to slide when transporting by railway.

It is strictly forbidden to transport in bulk by wooden or cement ships.

Dangerous signs and notices shall be posted on the means of transport according to relevant transportation requirements

#### 14.7. Transport in bulk according to IMO instruments

no data available

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## 15. SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
2-methylcyclohexane-1,3-diamine	2-methylcyclohexane-1,3-diamine	13897-56-8	237-667-4
4-methylcyclohexane-1,3-diamine	4-methylcyclohexane-1,3-diamine	13897-55-7	None
<b>European Inventory of Existing Commercial Chemical Substances (EINECS)</b>	Listed.		
<b>EC Inventory</b>	Listed.		
<b>United States Toxic Substances Control Act (TSCA) Inventory</b>	Listed.		
<b>China Catalog of Hazardous chemicals 2015</b>	Not Listed.		
<b>New Zealand Inventory of Chemicals (NZIoC)</b>	Not Listed.		
<b>Philippines Inventory of Chemicals and Chemical Substances (PICCS)</b>	Not Listed.		
<b>Vietnam National Chemical Inventory</b>	Listed.		

<b>Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)</b>	Listed.
<b>Korea Existing Chemicals List (KECL)</b>	Not Listed.

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## 16. SECTION 16: Other information

### Information on revision

**Creation Date** July 15, 2019

**Revision Date** July 15, 2019

### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

**Any questions regarding this SDS, Please send your inquiry to [sds@xixisys.com](mailto:sds@xixisys.com)**

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*the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.*