SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT CODE	H0188
PRODUCT NAME	3,4-HEXANEDIONE
SUPPLIER	Shanghai M & U International Trade Co., Ltd. Rm 1717, No 598 North NuJiang Road 200333 Shanghai, China +86-21-32515501 32515502 sales@mu-intel.com

FOR EMERGENCIES CALL CHEMTREC: 800-424-9300 (24-HOURS)

2. HAZARD IDENTIFICATION:

Emergency Overview
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable liquids (Category 3)

GHS Label elements, including precautionary statements
Pictogram:

Signal word
Warning

Hazard statement(s)

H226	Flammable liquid and vapour.

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 P361 P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P370 P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403 P235	Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification
Health hazard 2
Flammability 3
Physical hazards 2

NFPA Rating
Health hazard 2
Fire 3
Reactivity Hazard 0

Potential Health Effects
Inhalation
May be harmful if inhaled. May cause respiratory tract irritation.

Skin
May be harmful if absorbed through skin. May cause skin irritation

Eyes
May cause eye irritation.

Ingestion
May be harmful if swallowed.

3. COMPOSITION AND INFORMATION ON INGREDIENTS:

SYNONYM:	1-Aminohexane
Formula:	C6 H10 O2
Molecular Weight:	114.14 g/mol
CAS-No.:	4437-51-8
EC-No.:	224-651-7
Index-No.:	N/A
Concentration:	N/A

4. FIRST-AID GUIDE:

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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
Flush eyes with water as a precaution.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING GUIDE:

Suitable extinguishing media
For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters
Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions - Carbon oxides.

Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE GUIDE:

Personal precautions
Avoid breathing vapors, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low 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 then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE:

Precautions for safe handling
Avoid inhalation of vapour or mist.
Keep away from sources of ignition.-No smoking. Take measures to prevent the buildup of electrostatic charge.

Conditions for safe storage
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.

8. EXPOSURE AND PERSONAL PROTECTION:

Contains no substances with occupational exposure limit values.

Personal protective equipment
Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Impervious clothing, Flame retardant antistatic protective clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance	
Form	liquid
Colour	yellow to yellow-green
Safety data	
pH	no data available
Melting point (°C)	no data available
Boiling point (°C)	123 C
Flash point (°F)	Closed cup88 F
Ignition temperature	no data available

Auto ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure (mm Hg@20 °C)	no data available
Density @25 °C	0.939
Water solubility	insoluble
Partition coefficient (n-octanol/water)	no data available
Relative vapourdensity	no date available
Odor	butter, toasted, nutty, almond
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY:

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
Vapours may form from explosive mixture with air.

Conditions to avoid
Heat, flames and sparks.

Materials to avoid
Strong oxidizing agents.

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides.
Other decomposition products- no data available.

11. TOXICOLOGICAL INFORMATION:

Acute toxicity
Oral LD50
No data available

Inhalation LC50
No data available

Dermal LD50
No data available

Other information on acute toxicity
No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
IARC:
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH:
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP:
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA:
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
Teratogenicity
No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
No data available

Aspiration hazard
No data available

Potential health effects
Inhalation
May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion
May be harmful if swallowed.

Skin
May be harmful if absorbed through skin. May cause skin irritation.

Eyes
May cause eye irritation.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects
No data available.

Additional Information
RTECS: Not available

12. ECOLOGICAL INFORMATION:

Toxicity
No data available

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

PBT and vPvB assessment
No data available

Other adverse effects
No data available

13. DISPOSAL RECOMMENDATIONS:

Product
Burn in a chemical incinerator equipped an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORTATION INFORMATION:

DOT (US)	
UN number:	1993
Class:	3
Packing group:	III
Proper shipping name:	FLAMMABLE LIQUID N.O.S.
IMDG	
UN number:	1993
Class:	3
Packing group:	III
Proper shipping name:	FLAMMABLE LIQUID N.O.S.
IATA	
UN number:	1993
Class:	3
Packing group:	III
Proper shipping name:	FLAMMABLE LIQUID N.O.S.

15. REGULATORY INFORMATION:

OSHA Hazards
Flammable liquid

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title Ill, Section 313.

SARA 311/312 Hazards
Fire Hazard

Massachusetts Right to Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know Components
Hexane-3,4-dione
CAS-No.: 4437-51-8
Revision Date: -

New Jersey Right to Know Components
Hexane-3,4-dione
CAS-No.: 4437-51-8

Revision Date: -

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION:

The information in this SDS was obtained from current and reliable sources. However, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond M&U's control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability for loss, damage, or expense arising out of the products improper use. No warranty expressed or implied regarding the product described herein will be created by or inferred from any statement or omission in the SDS. Various federal, state, or provincial agencies may have specific regulations concerning the transportation, handling, storage, use, or disposal of this product which may not be reflected in the SDS. The user should review these regulations to ensure full compliance.

Prepared By: M&U International LLC **REVISED:** 02/17/2015