TOSOH SPECIALTY CHEMICALS USA, INC.

TOYOCAT – L20M

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

PRODUCT IDENTIFIER:	TOYOCAT – L20M
MANUFACTURER / IMPORTER:	TOSOH SPECIALTY CHEMICALS USA, Inc.
ADDRESS:	1720 Windward Concourse, Suite 125 Alpharetta, Georgia 30005
PHONE:	1-770-442-9501
EMERGENCY PHONE:	CHEMTREC 1-800-424-9300 OR 1-703-527-3887
RECOMMENDED USE:	General industrial products

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION

Flammable liquid	Category 3
Acute toxicity	
Oral:	Category 4
Inhalation:	Category 3
Eye damage/eye irritation	Category 1
Skin corrosion/irritation	Category 1B
Specific target organ toxicity – single exposure	Category 3

HAZARD SYMBOL:

SIGNAL WORD:	**DANGER**
HAZARD STATEMENTS:	Flammable liquid and vapor. Harmful if swallowed. Toxic if inhaled. Causes severe skin burns and serious eye damage. May cause respiratory irritation.
PREVENTION:	Keep away from heat/sparks/open flames/hot surfaces – no smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use only non-sparking tools.

2. HAZARDS IDENTIFICATION (continued)

PREVENTION:

Take precautionary measures against static discharge.
Wear protective gloves/eye protection/face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.

RESPONSE:

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 control center/doctor.
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 control center/doctor.
If swallowed: Rinse mouth. Do NOT induce vomiting.
In case of fire: Use water spray, fog, dry chemical, foam, CO_2 to extinguish.

STORAGE:

Store in a well-ventilated place. Keep cool.
Store locked up.

DISPOSAL:

Dispose of contents/container in accordance with Federal and state regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS #	OSHA Hazardous(Y/N)	Concentration (%)
2-Dimethylaminoethanol	108-01-0	Y	80
Triethylenediamine	280-57-9	Y	20

4. FIRST AID MEASURES

EYE CONTACT:

Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes.
Seek medical attention if irritation develops of persists or if visual changes occur.

4. FIRST AID MEASURES (continued)

SKIN CONTACT:	Remove contaminated clothing and shoes. Wash with plenty of water, for at least 15 minutes. Seek medical attention if irritation develops or persists. Launder contaminated clothing and shoes before re-use.
INGESTION:	Do not induce vomiting. If victim is conscious and alert, give 1-2 glasses of water to drink. Do not give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended.
INHALATION:	If respiratory irritation or distress occurs, remove victim to fresh air. Seek immediate medical attention.
NOTES TO PHYSICIAN:	All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically. No specific antidote available.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:	Water spray, fog, dry chemical, foam, CO_2
UNUSUAL FIRE AND EXPLOSION HAZARDS:	Closed containers may rupture due to buildup of pressure when exposed to extreme heat.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS:	Firefighters should wear NIOSH/MSHA-approved self-contained breathing apparatus and full protective clothing. Cool containers exposed to fire with water.
HAZARDOUS DECOMPOSITION MATERIALS UNDER FIRE CONDITIONS:	Oxides of carbon, oxides of nitrogen, ammonia.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:	Wear appropriate protective gear for the situation. (See Personal Protection Information in Section 8).
ENVIROMENTAL PRECAUTIONS:	Do not flush to drain. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

6. ACCIDENTAL RELEASE MEASURES (continued)

METHOD FOR CLEAN UP: Extinguish or remove all sources of ignition. Absorb with an inert absorbent. Sweep up and place in an appropriate closed container. Clean up residual material by washing area with water. Collect washings for disposal. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Handle material with suitable protection (See Section 8). Handle with adequate ventilation. Avoid breathing mists or vapors. Avoid contact with eyes, skin and clothing.

VENTILATION: General area dilution/exhaust ventilation.

CONDITIONS FOR SAFE STORAGE: Store upright in a cool, dry, well ventilated area out of direct sunlight. Keep away from heat,open flames and ignition sources. Keep container tightly closed. Do not reuse container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES: Set up hand-wash station and eyewash station near work area.
General area dilution/exhaust ventilation.

EXPOSURE LIMITS: None

PERSONAL PROTECTION MEASURES:

Respiratory protection: When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with regulatory standards and/or industrial recommendations. Self-contained or supplied-air respiratory equipmment is recommended.

Eye protection: Safety glasses with side shields, goggles or face shield are recommended.

Skin protection: Skin contact should be minimized through the use of chemical-resistant gloves and boots, and suitable protective clothing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

The following general measures should be taken when working or handling this material:
1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
3) Wash exposed skin promptly to remove accidental splashes of contact with this material.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Liquid
COLOR:	Yellow
ODOR:	Ammonia-like
pH:	12.2 (@10% aqueous, @68F, 20C)
MELTING POINT:	No data available
BOILING POINT:	271-291F (133-144C)
FLASH POINT:	117F (47C)
AUTOIGNITION POINT:	No data available
EXPLOSIVE LIMITS(Lower):	No data available
EXPLOSIVE LIMITS(Upper):	No data available
VAPOR PRESSURE:	480 Pa @ 68F (20C)
VAPOR DENSITY:	3.21 (Air = 1)
EVAPORATION RATE:	No data available
RELATIVE DENSITY:	0.91
SOLUBILITY IN WATER:	Soluble
PARTITION COEFFICIENT:	No data available
DECOMPOSITION TEMPERATURE:	No data available

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:	This material is stable under normal handling and storage conditions described in Section 7.
CONDITIONS TO AVOID:	Heat, open flame, sparks.
INCOMPATIBLE MATERIALS:	Strong oxidizing agents, strong acids.
HAZARDOUS DECOMPOSITION PRODUCTS:	Oxides of carbon, oxides of nitrogen, ammonia.
HAZARDOUS POLYMERIZATION:	Not applicable

11. TOXICOLOGICAL INFORMATION

EYE CORROSION/IRRITATION:	Severely irritating, rabbit. (Data for components).
SKIN CORROSION/IRRITATION:	Corrosive, rabbit (Data for 2-Dimethylaminoethanol.
ACUTE TOXICITY:	
ACUTE ORAL TOXICITY:	LD_{50} = 1200 mg/kg, rat. (Data for 2-Dimethylaminoethanol).

11. TOXICOLOGICAL INFORMATION (continued)

ACUTE DERMAL TOXICITY:	LD_{50} > 2000 mg/kg, rat. Data for Triethylenediamine).
ACUTE INHALATION TOXICITY:	LC_{50} = 1641ppm/4hr, vapor (Data for 2-Dimethylaminoethanol).
SKIN SENSITIZATION	Not a sensitizer (guinea pig. Data for components).
GENETIC TOXICITY	Not mutagenic in the Ames test, Chinese Hamster Ovary, or *in vivo* mouse micronucleus test (Data for components).
CARCINOGENICITY:	This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens.
REPRODUCTIVE TOXICITY:	In a combined repeat-dose/reproductive study (OECD 422) in triethylenediamine, the NOAEL (no-observed-adverse-effect level) for F0 reproductive toxicity was considered to be 300 mg/kg/day. The NOAEL for FI neonatal toxicity was considered to be 300 mg/kg/day. The NOAEL for F0 parental systemic toxicity was considered to be 100 mg/kg/day. When pregnant rats were exposed to 2-Dimethylaminoethanol vapor at concentrations of 10, 30 or 100 ppm for 6 hours/day, there was no increase in birth defects in offspring.
STOT-SINGLE EXPOSURE:	Expected to cause respiratory irritation. (Data for 2-Dimethylaminoethanol).
STOT-REPEATED EXPOSURE:	In a combined repeat-dose/reproductive study (OECD 422), reversible, treatment-related effects were observed in the kidneys and bladders of mid-to-high dose animals.

12. ECOLOGICAL INFORMATION

ECOTOXICITY:	96hr LC_{50} > 100 mg/L (carp) 48hr EC_{50} > 92 mg/L (daphnia magna) (Both data for Triethylenediamine). 72hr EC_{50} = 66 mg/L (algae, growth rate) (Data for 2-Dimethylaminoethanol).
PERSISTENCE AND DEGRADABILITY:	Readily biodegradable (Data for 2-Dimethylaminoethanol).
MOBILITY IN SOIL:	No data available

13. DISPOSAL CONSIDERATION (INCLUDING CONTAINER)

RESIDUAL WASTE: Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from Federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

CONTAMINATED VESSELS AND CONTAINERS: Rinse containers before disposal. Do not allow rinsate to enter the water systems.
EPA Hazardous Waste = C (Corrosive) &
I (Ignitable)

14. TRANSPORTATION INFORMATION

PROPER SHIPPING NAME:	AMINES, LIQUID, CORROSIVE, FLAMMABLE N.O.S. (Contains 2-Dimethylaminoethanol)
UN NUMBER:	UN2734
UN CLASS or DIVISION:	8 (3)
UN PACKING GROUP:	II
LABELS:	Corrosive, Flammable
EMERGENCY GUIDE#:	132

15. REGULATORY INFORMATION

Inventory Status:
US (TSCA): Yes
Canada (DSL): Yes
EU (REACH): Yes
Australia (AICS): Yes
Japan (METI): Yes
Korea (KECL): Yes

Where: Yes = all ingredients are listed on the inventory, Exempt = All ingredients are either on the inventory or exempt from the requirements of listing, No = Not determined, or one or more ingredients are not on the inventory and are not exempt from listing

SARA Title III Hazard Classes:
Fire Hazard: Yes
Reactive Hazard: No
Release of Pressure: No
Acute Health Hazard: Yes
Chronic Health Hazard: Yes

SARA Extremely Hazardous Substances/CERCLA Hazardous Substances: None

California Proposition 65: This product does not contain any components that are regulated under Proposition 65.

16. OTHER INFORMATION INCLUDING INFORMATION ON PREPARATION AND REVISION OF THIS MSDS

National Fire Protection Association ("NFPA") Hazard Ratings:

Health: 3 (Severe)

Flammability: 2 (Moderate)

Reactivity: 0 (Minimal)

National Paint and Coatings Hazardous Materials Identification System ("HMIS") Hazard Ratings:

Health: 3 (Severe)

Flammability: 2 (Moderate)

Physical Hazard: 0 (Minimal)

HISTORY:

Date previous SDS:	September 12, 2013
Date of issue:	April 7, 2015
Reasons for Revision:	GHS Format

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END OF SAFETY DATA SHEET