SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **Acetone**
Synonyms: Dimethylketone; 2-propanone; dimethylketal
Chemical Formula: $(CH_3)_2CO$
Recommended Use: Solvent, Laboratory chemicals

COMPANY IDENTIFICATION

Supplier: **UNION PETROCHEMICAL PUBLIC COMPANY LIMITED**
728 Union House Building, Baromratchonnani Rd.,
Bangbumru, Bangplad, Bangkok 10700
Supplier General Contact: +662 881 8288

This (M)SDS is a generic document with no country specific information included.

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to UN GHS Criteria. Classification includes all GHS hazard classes. For hazard categories with two cut-off/concentration limits, classification was based on the higher limit.

GHS CLASSIFICATION:

Flammable liquid: Category 2.
Eye irritation: Category 2.
Target organ toxicant (central nervous system): Category 3.

GHS LABEL ELEMENTS:
Pictogram:

Signal Word: Danger

Hazard Statements:

1. Extremely flammable liquid and vapor
2. Vapor may cause flash fire
3. Harmful if swallowed or inhaled
4. Causes irritation to skin, eyes, and respiratory tract
5. Affects central nervous system

Precautionary Statements:

1. Keep away from heat, sparks, and flame
2. Keep container closed
3. Use only with adequate ventilation
4. Wash thoroughly after handling
5. Avoid breathing vapor
6. Avoid contact with eyes, skin, and clothing

SAF-T- DATA RATING

Health Rating: 2- Moderate
Flammability Rating: 3 – Severe (Flammable)
Reactivity Rating: 0 – None
Contact Rating: 3 – severe
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APORN; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER
Storage Color Code: Red (Flammable)

POTENTIAL HEALTH EFFECTS:

Inhalation: Inhalation of vapors irritates the respiratory tract. May cause coughing, dizziness, dullness, and headache. Higher concentrations can produce central nervous system depression, narcosis, and unconsciousness.

Ingestion: Swallowing small amounts is not likely to produce harmful effects. Ingestion of larger amounts may produce abdominal pain, nausea and vomiting. Aspiration into lungs can produce severe lung damage and is a medical emergency. Other symptoms are expected to parallel inhalation.

Skin Contact: Irritating due to defatting action on skin. Causes redness, pain, drying and cracking of the skin.

Eye Contact: Vapors are irritating to the eyes. Splashes may cause severe irritation, with stinging, tearing, redness and pain.

Chronic Exposure: Prolonged or repeated skin contact may produce severe irritation or dermatitis.

Aggravation of Pre-existing Conditions: Use of alcoholic beverages enhances toxic effects. Exposure may increase the toxic potential of chlorinated hydrocarbons, such as chloroform, trichloroethane.

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a substance.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	Hazardous
ACETONE	67-64-1	99-100%	Yes

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SKIN CONTACT

Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

EYE CONTACT

Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention.

INGESTION

Aspiration hazard. If swallowed, vomiting may occur spontaneously, but DO NOT INDUCE. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Call a physician immediately.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Fire Extinguishing Media: Dry chemical, alcohol foam or carbon dioxide. Water may be in effective. Water spray may be used to keep fire exposed containers cool, dilute spills to nonflammable mixtures, protect personnel attempting to stop leak and disperse vapors.

SPECIAL INFORMATION

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

EXPLOSION

Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Vapors can flow along surface to distant ignition source and flash back. Contact with strong oxidizers may cause fire. Sealed containers may rupture when heated. This material may produce a floating fire hazard. Sensitive to static discharge.

FLAMMABILITY PROPERTIES

Flash Point : -20°C(-4°F) CC
Flammable Limits (Approximate volume % in air): LEL: 2.5 UEL: 12.8
Autoignition Temperature: 465°C (869°F)
Extremely Flammable Liquid and Vapor! Vapor may cause flash fire.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities.

SECTION 7 HANDLING AND STORAGE

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be NO Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters/Exposure limits:
Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard			Note	Source
ACETONE		TWA	1000 ppm			OSHA Permissible Exposure Limit (PEL)
ACETONE		STEL	750 ppm			ACGIH Threshold Limit Value (TLV)
ACETONE		TWA	500 ppm			ACGIH Threshold Limit Value (TLV)

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

VENTILATION SYSTEM

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection (NIOSH Approved): If the exposure limit is exceeded and engineering controls are not feasible, a half-face organic vapor respirator may be worn for up to ten times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece organic vapor respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. WARNING; Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Eye Protection: Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Skin and Body Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Volatile Liquid
Color: Colorless/Clear
Odour: Fragrant, Mint-like
Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Specific Gravity (at 20ºC/4ºC):	0.79
Density:	N/D
Flammability (Solid, Gas):	N/D
Flash Point:	-20°C (-4 °F)
Flammable Limits (Approximate volume % in air):	LEL: 2.5 UEL: 12.8
Autoignition Temperature:	465°C (869 °F)
Boiling Point:	56.5°C (133 °F) @ 760 mm Hg
Decomposition Temperature:	N/D
Vapour Density (Air = 1):	2.0
Vapour Pressure:	400 mm Hg at 39.5°C (104 °F)
Evaporation Rate (n-butyl acetate = 1):	7.7
pH:	N/D
Log Pow (n-Octanol/Water Partition Coefficient):	N/D
Solubility in Water:	Miscible in all proportion in water
Viscosity:	N/D

OTHER INFORMATION

Freezing Point:	N/D
Melting Point:	-95°C (-139°F)
Molecular Weight:	58.08
%Volatiles by Volume (at 21ºC (70 ºF)):	100

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Stable under ordinary conditions of use and storage.

CONDITIONS TO AVOID: Heat, flames, ignition sources and incompatibles.

INCOMPATIBILITIES: Concentrated nitric and sulfuric acid mixtures, oxidizing materials, chloroform, alkalis, chlorine compounds, acids, potassium t-butoxide.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon dioxide and carbon monoxide may form when heated to decomposition.

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Oral rat LD50: 5800 mg/kg; Inhalation rat LC50: 50,100 mg/m3; Irritation eye rabbit, standard Draize, 20 mg severe; investigated as a tumorigen, mutagen, reproductive effector.

NTP CARCINOGEN

Ingredient	Known	Anticipated	IARC Category
Acetone (67-64-1)	No	No	None

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ENVIRONMENTAL FATE

When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material is expected to quickly evaporate. When released into water, this material is experted to readily biodegrade. When released

to water, this material is expected to quickly evaporate. This material has a log octanol-water partition coefficient of less than 3.0. This material is not expected to significantly bioaccumulate. When released into the air, this material may be moderately degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material may be moderately degraded by photolysis. When released into the air, this material is expected to be readily removed from the atmosphere by wet deposition.

ENVIRONMENTAL TOXICITY

This material is not expected to be toxic to aquatic life. The LC50/96-hour values for fish are over 100 mg/l.

SECTION 13 DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

SECTION 14 TRANSPORT INFORMATION

DOMESTIC (LAND, D.O.T)

Proper Shipping Name: ACETONE
Hazard Class & Division: 3
UN Number: 1090
Packing Group: II
Information Reported For Product/Size: 188L

INFORMATION (WATER, I.M.O.)

Proper Shipping Name: ACETONE
Hazard Class & Division: 3
UN Number: 1090
Packing Group: II
Information Reported For Product/Size: 188L

SECTION 15 REGULATORY INFORMATION

This material is considered hazardous according to the Classification of Chemicals based on Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

CHEMICAL INVENTORY STATUS PART 1

Ingredient	TSCA	EC	Japan	Australia
Acetone (67-64-1)	Yes	Yes	Yes	Yes

CHEMICAL INVENTORY STATUS PART 2

Ingredient		Canada		
	Korea	DSL	NDSL	Phil
Acetone (67-64-1)	Yes	Yes	No	Yes

FEDERAL, STATE & INTERNATIONAL REGULATIONS PART 1

Ingredient	SARA 302		SARA 313	
	RQ	TPQ	List	Chemical Catg.
Acetone (67-64-1)	No	No	Yes	No

FEDERAL, STATE & INTERNATIONAL REGULATIONS PART 2

Ingredient		RCRA	TSCA
	CERCLA	261.33	8(d)
Acetone (67-64-1)	5,000	U002	No

Chemical Weapons Convention:	No
TSCA 12 (b):	No
CDTA:	Yes
SARA 311/312: Acute:	Yes
Chronic:	No
Fire:	Yes
Pressure:	No
Reactivity:	No (Pure/Liquid)

AUSTRALIA HAZCHEM CODE: 2[Y]E
Poison Schedule: None allocated.
WHMIS;

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

LABEL FIRST AID

Aspiration hazard. If swallowed, vomiting may occur spontaneously, but DO NOT INDUCE. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Call a physician immediately. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In all cases, get medical attention.

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