MATERIAL SAFETY DATA SHEET (MSDS)

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : US20

ULTRA CLEAN SUPPLIER : CLEANER PLUS

ADDRESS : 711/59 Theparak Rd. Phraeksa Mai Subdistrict,

Mueang District, Samut Prakan Province 10280 Thailand

DIVISION : Chemical Division

TELEPHONE NUMBER : +66613936792

EMAIL : sale@thaicleaning.com

EMERGENCY TELEPHONE NUMBER : +66613936792

RECOMMENDED USE : Only for surface finishing industrial use

2. HAZARDS IDENTIFICATION

MOST IMPORTANT HAZARDS AND : Corrosive

ADVERSE HUMAN HEALTH EFFECT : Causes severe burns.

Risk of serious damage to eyes.

Danger of very serious irreversible effects.

Toxic by inhalation, in contact with skin and swallowed.

PHYSICAL AND CHEMICAL HAZARDS : Violent evolution of heat in contact with acids.

ENVIRONMENTAL EFFECTS : To the best of our investigation, no information about adverse

effect in the environment available.

CLASS NAME FOR MSDS IN JAPAN : Acute toxic substances

Corrosive substances

3. COMPOSITION / INFORMATION ON INGREDIENTS

SUBSTANCE OR MIXTURE : Mixture

INGREDIENTS AND CONCENTRATION : Aqueous solution of mixtures of Potassium Hydroxide group

compound RANGE

Ingredients	Concentration Range (%)	CAS No.
Potassium Hydroxide	<30%	1310-58-3
Surfactant	<20%	-
Water	Balance	-

4. FIRST-AID MEASURES

IN CASE OF INHALATION : Remove to fresh air and keep at rest in a position comfortable

for breathing.

IN CASE OF SKIN CONTACT : Remove/take off immediately all contaminated clothing. Rinse

skin with water/shower. Call a POISON CENTRE or doctor/physician.

IN CASE OF EYE CONTACT : Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE or doctor/physician.

IN CASE OF INGESTION : Rinse mouth. Do NOT induce vomiting. Immediately call a

POISON CENTER or doctor/physician.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA : Extinguishing media governed by another materials present.

Water spray preferred due to diluting effect. Self contained breathing apparatus should be worn.

NOT SUITABLE EXTINGUISHING MEDIA : No information available SPECIFIC HAZARDS: No information

available

SPECIFIC METHODS : Keep away from sources of ignition and use appropriate

extinguishing media. Fight fire from upwind position if possible.

PROTECTION OF FIRE FIGHTERS : The product is not flammable. Under certain circumstances,

used by other materials, the formation of other toxic substances cannot be excluded. Use goggles in

combination with dust mask: and another protections as appropriate to situation

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS : Use goggles and protective gloves. PROTECTIVE EQUIPMENT

AND Large spills: Remove person to safety.

EMERGENCY PROCEDURE Ensure adequate ventilation.

ENVIRONMENTAL PRECAUTIONS : Avoid release to the environment.

METHODS FOR CLEANING UP Collect the chemicals and flush the area with plenty of water

PREVENTION OF SECONDARY : No information available

HAZARDS

7. HANDLING AND STORAGE

HANDLING

TECHNICAL MEASURES : Facilities storing or utilizing this material should be equipped

with an eyewash facility and a safety shower.

PRECAUTIONS : Avoid contact with eyes and skin. This product may form

separation according to the storage condition. In that case, please agitate or stir, then use as homogenous

liquid.

SAFE HANDLING ADVICE : Use adequate ventilation. Wash thoroughly after handling.

Use personal protective equipment as required

Do not breathe dust/fume/gas/mist/vapors'/spray.

Do not eat, drink or smoke when using this product.

Avoid contact with acid.

STORAGE

SUITABLE STORAGE CONDITIONS : Store container tightly closed in well-ventilated place.

Store in a cool dry area, in a closed container.

Avoid extremes of temperature.

SAFE PACKAGING MATERIALS : No information available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING MEASURES : Facilities storing or utilizing this material should be equipped

With eyewash facility and a safety shower.

Use adequate ventilation.

LIMIT VALUES

ACGIH (TLV) : No information available

OSHA (PEL) : No information available

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION : Use chemical cartridge respirator, as appropriate to situation.

HAND PROTECTION : Chemical protection gloves. PVC is a suitable material of

construction.

EYE PROTECTION : Safety goggles or Face shield

SKIN AND BODY PROTECTION : Long sleeved overall, rubber apron and face shield.

Impermeable safety footwear HYGIENE MEASURES: No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATES

FORM : Liquid

COLOUR : Light Yellow

ODOUR : Slightly unpleasant

pH : $12.0-13.0 (3\% \text{ solution, at } 25^{\circ}\text{C})$

SPECIFIC TEMPERATURES / TEMPERATURE RANGES

AT WHICH CHANGES IN PHYSICAL STATE OCCUR

BOILING POINT : Not applicable

MELTING POINT : Not applicable

FLASH POINT : Not applicable

FLAMMABILITY OR EXPLOSIVE PROPERTIES

FLAMMABILITY OR EXPLOSIVE : Not applicable

LIMITS Not applicable VAPOUR PRESSURE : Not applicable

VAPOUR DENSITY : Not applicable

DENSITY (SPECIFIC GRAVITY) : 1.4 g/ml (3% solution, at 25 °C)

SOLUBILITY

WATER SOLUBILITY Miscible

SOLVENT SOLUBILITY : No information available

PARTITION COEFFICIENT: n- : No information available

OCTANOL / WATER (log pow)

AUTO-IGNITION TEMPERATURE : No information available

DECOMPOSITION TEMPERATURE : No information available

ODOUR THRESHOLD : No information available

EVAPORATION RATE : No information available

FLAMMABILITY (SOLID, GAS) : No information available

VISCOSITY : No information available

OTHER DATA : No information available

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY : Stable at ambient temperatures

POSSIBILITY OF HAZARDOUS : None.

REACTIONS CONDITIONS TO AVOID : Strong acid.

INCOMPATIBLE MATERIALS : Strong acid.

HAZARDOUS DECOMPOSITION : None.

PRODUCTS OTHERS : No information available

11. TOXICOLOGICAL INFORMATION

ACUTE EFFECTS : See section 4 for symptoms of exposure and effects. Likely

routes of exposure are skin, eyes, and inhalation

ACUTE TOXICITY DATA : No information available

CHRONIC EFFECTS ON HUMANS : No information available

MUTAGENICITY : No information available (GERM CELL MUTAGENICITY)

CARCINOGENICITY : No information available

REPRODUCTIVE TOXICITY : No information available

SPECIFIC TARGET ORGAN TOXICITY

- SINGLE EXPOSURE : No information available

- REPEATED EXPOSURE : No information available

ASPIRATION HAZARD : No information available

OTHER INFORMATION : No information available

Avoid swallowing and long-term skin contact

12. ECOLOGICAL INFORMATION

ECOTOXICITY : No information available

PERSISTENCE / DEGRADABILITY : No information available

MOBILITY IN SOIL : No information available

BIOACCUMULATIVE POTENTIAL : No information available

OTHER ADVERSE EFFECTS : No specific data available. However, due to the nature of the

product, discharge of untreated product especially from point sources may cause damage to the aquatic

environment. Low concentrations act as plant nutrients.

13. DISPOSAL CONSIDERATIONS

Dilute, neutralize and disposal in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

Follow all regulations in your country or region

INTERNATIONAL REGULATIONS

UN CLASS / UN NUMBER : No information available

SPECIAL PRECAUTIONS FOR USER : Review "ACCIDENTAL RELEASE MEASURES (Section 6)".

Review "HANDLING AND STORAGE (Section 7)". Ensure containers without breakage or leakage. Ensure

containers tightly fixed. Follow all regulations in your country or region.

15. REGULATORY INFORMATION

Follow all regulations in your country or region. PENC is not able to check up the regulatory information in regard to the substances in your country or region; therefore, we request this matter would be filled by your responsibility.

16. OTHER INFORMATION

All data are based on our current knowledge. They do not indicate any warranty or representation. We disclaim all liability relating to use of material as this is beyond our control.