

MATERIAL SAFETY DATA SHEET

IDENTITY: MagDEA Dx LV

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

PRODUCT NAME : MagDEA Dx LV

MANUFACTURER : Precision System Science Co.,Ltd.

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MSDS No. : MSDS-E1310-E-01

2. HAZARDS IDENTIFICATION

Well No.	REAGENT NAME	SINGLE/MIXTURE	GHS CLASSIFICATION			
			Class	Category	Symbol	H-Code
1	PK solution	Mixture	Not classifiable	-	-	-
2	Magnetic particles	Mixture	Not classifiable	-	-	-
3	Distilled water	Single	Not classifiable	-	-	-
6	Carrier solution	Mixture	Not classifiable	-	-	-
7, 8, 9, 11	Wash buffer 2 Wash buffer 1 Binding buffer	Mixture	Flammable liquids	2		H225
			Serious eye damage/eye irritation	2		H319
			Reproductive toxicity	2		H361
			Specific target organ toxicity - Single exposure	1, 3		H370, H335
			Specific target organ toxicity - Repeated exposure	1, 2		H372, H373
12	Lysis Solution	Mixture	Acute toxicity (Oral)	4		H302
			Skin corrosion/irritation	2		H315
			Serious eye damage/eye irritation	2A		H319
			Specific target organ toxicity - Single exposure	3		H335
			Hazardous to the aquatic environment (Acute)	1		H400
			Hazardous to the aquatic environment (Long-term)	1		H410

SIGNAL WORD: Warning, Danger**HAZARD STATEMENTS:**

Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation (respiratory tract irritation)
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects
Highly flammable liquid and vapour
Suspected of damaging fertility or the unborn child
Causes damage to organs (central nervous system, systemic toxicity)
May cause respiratory irritation (respiratory tract irritation)
Cause damage to organs through prolonged or repeated exposure (blood system)
May cause damage to organs through prolonged or repeated exposure (respiratory system, liver, spleen)

PRECAUTIONARY STATEMENTS:**[Prevention]**

P201 : Obtain special instructions before use.
P202 : Do not handle until all safety precautions have been read and understood.
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.
P260 : Do not breathe dust/fume/gas/mist/vapours/spray.
P261 : Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 : Wash hands thoroughly after handling.
P270 : Do not eat, drink or smoke when using this product.
P271 : Use only outdoors or in a well-ventilated area.
P273 : Avoid release to the environment.
P280 : Wear protective gloves/protective clothing/eye protection/face protection.

[Response]

P301+P312 : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352 : IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353 :
IF ON SKIN (or hair) : Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 : IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 :
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 : IF exposed or concerned: Get medical advice/attention.
P308+P311 : IF exposed or concerned: Call a POISON CENTER/doctor/...
P312 : Call a POISON CENTER or doctor/physician if you feel unwell.
P314 : Get medical advice/attention if you feel unwell.
P321 : Specific treatment (see ... on this label) .
P330 : Rinse mouth.
P332+P313 : If skin irritation occurs: Get medical advice/attention.
P337+P313 : If eye irritation persists: Get medical advice/attention.

P362 : Take off contaminated clothing and wash before reuse.

P370+P378 : In case of fire: Use ... to extinguish.

P391 : Collect spillage.

[Storage]

P403+P233 : Store in a well-ventilated place. Keep container tightly closed.

P403+P235 : Store in a well-ventilated place. Keep cool.

P405 : Store locked up.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Well 1 : PK solution

CHEMILCAL IDENTIT	CAS No.	Content (%)	EINECS No.	TSCA (Listed or not Listed)
Trade secret	-	-	-	-

Well 2 : Magnetic particles

CHEMILCAL IDENTIT	CAS No.	Content (%)	EINECS No.	TSCA (Listed or not Listed)
Trade secret	-	-	-	-

Well 3 : Distilled water

CHEMILCAL IDENTIT	CAS No.	Content (%)	EINECS No.	TSCA (Listed or not Listed)
Water	7732-18-5	100 %	231-791-2	Listed

Well 6 : Carrier solution

CHEMILCAL IDENTIT	CAS No.	Content (%)	EINECS No.	TSCA (Listed or not Listed)
Trade secret	-	-	-	-

Well 7 : Wash buffer 2

CHEMILCAL IDENTIT	CAS No.	Content (%)	EINECS No.	TSCA (Listed or not Listed)
2-propanol	67-63-0	40 - 80 %	200-661-7	Listed

Well 8,9 : Wash buffer 1

CHEMILCAL IDENTIT	CAS No.	Content (%)	EINECS No.	TSCA (Listed or not Listed)
2-propanol	67-63-0	40 - 80 %	200-661-7	Listed
Dodecyl sodium sulfate	151-21-3	< 1.0 %	205-778-1	Listed

Well 11 : Binding buffer

CHEMILCAL IDENTIT	CAS No.	Content (%)	EINECS No.	TSCA (Listed or not Listed)
2-propanol	67-63-0	40 - 80 %	200-661-7	Listed
Dodecyl sodium sulfate	151-21-3	< 1.0 %	205-778-1	Listed

Well 12 : Lysis Solution

CHEMICAL IDENTIT	CAS No.	Content (%)	EINECS No.	TSCA (Listed or not Listed)
Guanidine Hydrochloride	50-01-1	< 60 %	200-002-3	Listed
Hexadecan-1-yl(trimethyl)ammonium chloride	112-02-7	0.1– 5%	203-928-6	Not listed

4. FIRST AID MEASURES

GENERAL ADVICE : Wash off immediately with soap and plenty of water. In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit. Use personal protective equipment.

INHALATION : Move victim to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, administer artificial respiration. Maintain normal body temperature with a blanket. If irritation persists, transport to a hospital immediately.

SKIN CONTACT : Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. If irritation persists, consult a physician.

EYE CONTACT : Remove any contact lenses at once. Flush eyes well with flooding amounts of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If irritation persists, consult a physician.

INGESTION : Rinse mouth, give plenty of water to dilute the substance. Never give anything by mouth to an unconscious person. Transport to a hospital immediately.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA :

Carbon dioxide, dry chemical powder, alcohol resistant foam, water

FIRE & EXPLOSION HAZARDS :

Flammable liquid. Hazardous toxic and irritating fumes or smoke may be emitted. Vapors may travel considerable distance to ignition source and flash back.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS : Firemen should wear normal protective equipment (full bunker gear) and positive-pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS : Remove ignition sources and ventilate the area. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes.

ENVIRONMENTAL PRECAUTIONS : Prevent spills from entering sewers, watercourses or low areas.

METHODS FOR CLEANING UP : Do not touch spilled material without suitable protection (See section 8). Take up spilled material with ashes or other absorbents. After material is completely picked up, wash the spill site with soap and water and ventilate the area. Put all wastes in a plastic bag for disposal and seal it tightly. Remove, clean, or dispose of contaminated clothing.

7. HANDLING AND STORAGE

PRECAUTION FOR SAFE HANDLING : Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Handle material with suitable protection away from source of heat or ignition and use non-sparking type tools.

CONDITIONS FOR SAFE STORAGE : Store away from sunlight in well-ventilated dry place at room temperature (preferably cool place). Keep container tightly closed.

INCOMPATIBILITIES : Bases, oxidizers, reducing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES : Use exhaust ventilation to keep airborne concentrations below exposure limits. Use only with adequate ventilation.

VENTILATION : Local Exhaust ; Necessary, Mechanical(General) ; Recommended

INDIVIDUAL PROTECTION MEASURES :

Respiratory protection : Use a NIOSH/MSHA or European Standard EN149 approved respirator if the vapor concentrations exceed regulatory guidelines.

Hand protection : Chemical resistant gloves

Eye protection : Safety glasses(goggles)

Skin protection : Protective clothing

CONTROL PARAMETER :

OSHA Final Limits : Not available

ACGIH TLV(s) : Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOUR : Suspension of blown polymer particles in aqueous solutions (Well No.2)

All plastic packagings contain clear, aqueous solutions (Others)

pH : 5.0-8.0

MELTING POINT : Not available

INITIAL BOILING POINT : 80.6°C (Well No.11) , 80.8°C (Well No.8&9) , 81.4°C (Well No.7)

FLASH POINT : 19.0°C (Well No.11) , 21.4°C (Well No.8&9) , 23.4°C (Well No.7)

FLAMMABILITY (solid, gas) : Not available

EXPLOSIVE LIMITS : Not available

VAPOR PRESSURE : Not available

VAPOR DENSITY : Not available

RELATIVE DENSITY : Not available

SOLUBILITY IN WATER : Refractoriness (Well No.2)

Miscible (others)

PARTITION COEFFICIENT : Not available-

AUTOIGNITION TEMPERATURE : Not available

DECOMPOSITION TEMPERATURE : Not available

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY : Stable under recommended storage conditions. (Well No.12)

CONDITIONS TO AVOID : Sunlight, heat, moisture (Well No.12)

INCOMPATIBLE MATERIALS : Oxidizers, acetic anhydride, calcium oxychloride, chromium oxides, alkali metal hydrides (Well No.12)

HAZARDOUS DECOMPOSITION PRODUCTS : Carbon monoxide and corrosive gas (acrolein) may be formed. (Well No.7, No.8, No. 9, No. 11)

11. TOXICOLOGICAL INFORMATION

Well 7, 8, 9 and 11 as 100 % 2-propanol (Cas No. 67-63-0)

ACUTE TOXICITY DATA : LD50 (oral, rat): 5280mg/kg

LD50 (Dermal, rabbit): 12870 mg/kg

LC50 (Inhalation, rat): 16000 ppm/8h

IRRITATION DATA : Based on the NITE GHS classification results.

MUTATION DATA : Based on the NITE GHS classification results.

REPRODUCTIVE EFFECTS DATA : Based on the NITE GHS classification results.

TUMORIGENIC DATA : Based on the NITE GHS classification results.

Well No.12 Lysis Solution as Guanidine hydrochloride

ACUTE TOXICITY DATA : LD50 (oral, rat): 475 mg/kg

LD50 (Dermal, Rabbit): > 2000 mg/kg

LC50 (Inhalation, rat): 5319 mng/l

IRRITATION DATA : Based on the NITE GHS classification results.

MUTATION DATA : Not available

REPRODUCTIVE EFFECTS DATA : Not available

TUMORIGENIC DATA : Not available

Code : E1310

MSDS No. : MSDS-E1310-E-02

Well No.12 Lysis Solution as Hexadecan-1-yl(trimethyl)ammonium chloride

ACUTE TOXICITY DATA : LD50 (Oral, Mouse): < 600 mg/kg
 LD50 (Dermal, Rabbit): 4.3 mL/kg
 LC50 (Inhalation): N/A

IRRITATION DATA : Based on the NITE GHS classification results.

MUTATION DATA : Based on the NITE GHS classification results.

REPRODUCTIVE EFFECTS DATA : Based on the NITE GHS classification results.

TUMORIGENIC DATA : Based on the NITE GHS classification results.

12. ECOLOGICAL INFORMATION

Chemical Name	Algae / aquatic plants	Fish	Crustacea
2-Propanol	<i>EC50:Desmodesmus subspicatus</i> 1000mg/L 96h <i>EC50:Desmodesmus subspicatus</i> 1000mg/L 72h <i>ErC50:Pseudokirchneriella subcapitata</i> >1000 mg/L 72h	<i>LC50: Orange-red killifish</i> >100mg/L 96h	<i>EC50:Daphnia magna</i> >1000 mg/L 48 h
Guanidine hydrochloride	No information available	No information available	No information available
Hexadecyltrimethylammonium Chloride	N/A	N/A	<i>EC50:Daphnia magna</i> 0.01mg/L 48h

13. DISPOSAL CONSIDERATION (INCLUDING CONTAINER)

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber in accordance with all applicable regulations. Any disposal practice must be in compliance with country, local, state, and federal laws and regulations (contact country, local or state environmental agency for specific rules).

After contents are completely removed, dispose of its container at hazardous or special waste collection point. (in accordance with local/regional/national/international regulation).

14. TRANSPORT INFORMATION

2-propanol (Isopropanol)

IATA : 1219
 Transport hazard class 3
 Packaging group II
 Environmental hazard No
 UN Number UN1219

15. REGULATORY INFORMATION

As 2-propanol (CAS# 67-63-0)

US REGULATIONS ;

Health & Safety Reporting List Effective 12/15/86, Sunset 12/15/96

Chemical Test Rules 40 CFR 799.2325

SARA Codes immediate, delayed, fire.

EU REGULATIONS;

Hazard Symbols: XI F

Risk Phrases: R 11 Highly flammable.

R 36 Irritating to eyes.

R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases: S 16 Keep away from sources of ignition - No smoking.

S 24/25 Avoid contact with skin and eyes.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 7 Keep container tightly closed.

WGK (Water anger/Protection) 1

16. OTHER INFORMATION INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS

Reference

Siyaku.com <http://www.siyaku.com/>

European Chemicals Bureau <http://ecb.jrc.ec.europa.eu/>

Registry of Toxic Effects of Chemical Substances NIOSH(1985-1986)

The above information is believed to be correct to be the best of our knowledge and information but does not purport to be all inclusive and shall be used only as a guide. This product is intended to be used by expert persons having chemical knowledge and skill, at their own discretion and risk and PSS shall not be held liable for any damage resulting from handling or from contact with the above material.