

**MATERIAL SAFETY DATA SHEET**

IDENTITY: MagDEA Dx SV

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

PRODUCT NAME : MagDEA Dx SV

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MSDS No. : MSDS-E1300-E-06

**2. HAZARDS IDENTIFICATION**

Well No.	REAGENT NAME	SINGLE/ MIXTURE	GHS CLASSIFICATION			
			Class	Category	Symbol	H-Code
1	Lysis Solution	Mixture	Acute toxicity (oral)	4		H302
			Skin corrosion/ irritation	2		H315
			Serious eye damage / eye irritation	2		H319
			Specific target organ systemic toxicity - single exposure	3		H335
			Hazardous to the aquatic environment	1		H400, H410
2	PK solution	Mixture	Respiratory sensitization	1		H315
			Causes eye irritation	2B		H319 H334 H320
3	Carrier solution	Mixture	Not classifiable	-	-	-
4	Magnetic particles	Mixture	Not classifiable	-	-	-

<b>5, 6, 7</b>	Binding buffer Wash buffer 1 Wash buffer 2	Mixture	Flammable liquids	2		H225
			Serious eye damage / eye irritation	2		H319
			Reproductive toxicity	2		H361
			Specific target organ systemic toxicity - single exposure	1, 3		H370, H335
<b>8</b>	Distilled water	Single	Specific target organ systemic toxicity - Repeated exposure	1, 2		H372, H373
			Not classifiable	-	-	-

**SIGNAL WORD: Danger****HAZARD STATEMENTS :**

Highly flammable liquid and vapor  
 Causes serious eye irritation  
 Suspected of damaging fertility or the unborn child  
 Causes damage to organs  
 May cause respiratory irritation  
 Causes damage to organs through prolonged or repeated exposure  
 May cause damage to organs through prolonged or repeated exposure  
 Harmful if swallowed  
 Causes skin irritation  
 Very toxic to aquatic life  
 Very toxic to aquatic life with long-lasting effects

**PRECAUTIONARY STATEMENTS:**

Well No.	REAGENT NAME	SINGLE/ MIXTURE	P-code	Precautionary statement
<b>1</b>	Lysis Solution	MIXTURE	P261	Avoid breathing dust/fume/gas/mist/vapors/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	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
			P301+P312	IF ON SKIN: Wash with plenty of soap and water.
			P302+P352	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
			P304+P340	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
			P305+P351+P338	Call a POISON CENTER or doctor/physician if you feel unwell.
			P312	Specific treatment.
			P321	Rinse mouth.
			P330	If skin irritation occurs: Get medical advice/attention.
P332+P313	If eye irritation persists: Get medical advice/attention.			

			P337+P313	Take off contaminated clothing.
			P362	Collect spillage.
			P391	Store locked up.
			P403+P233	Store in a well-ventilated place. Keep container tightly closed.
			P405	Dispose of contents/container according to national regulation.
			P501	Avoid breathing dust/fume/gas/mist/vapors/spray.
<b>2</b>	Proteinase K	MIXTURE	P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
			P264	Wash hands thoroughly after handling.
			P280	Wear protective gloves/protective clothing/eye protection/face protection.
			P302 + P352	IF ON SKIN: Wash with plenty of water.
			P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
			P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>5, 6, 7</b>	Binding buffer Wash buffer 1 Wash buffer 2	MIXTURE	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/vapors/spray.
			P261	Avoid breathing dust/fume/gas/mist/vapors/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.
			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.
			P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position 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+P311	If exposed or concerned: Call a POISON CENTER/ doctor/physician.
			P308+P313	IF exposed or concerned: Get medical advice/attention.

		P312	Call a POISON CENTER or doctor/physician if you feel unwell.
		P314	Get medical advice/attention if you feel unwell.
		P321	Specific treatment.
		P337+P313	If eye irritation persists: Get medical advice/attention.
		P370+P378	In case of fire: Use carbon dioxide, foam, dry chemical and water fog to extinction.
		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.
		P501	Dispose of contents/container according to national regulation.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Well 1 : 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

Well 2 : PK solution

CHEMICAL IDENTIT	CAS No.	Content (%)	EINECS No.	TSCA (Listed or not Listed)
Proteinase K	39450-01-6	<10%	254-457-8	Not listed
Glycerol	56-81-5	40-60%	2-242	Listed

Well 3 : Carrier solution

CHEMICAL IDENTIT	CAS No.	Content (%)	EINECS No.	TSCA (Listed or not Listed)
Water	7732-18-5	>95%	231-791-2	Listed

Well 4 : Magnetic particles

CHEMICAL IDENTIT	CAS No.	Content (%)	EINECS No.	TSCA (Listed or not Listed)
Triiron tetraoxide	1317-61-9	>50%	215-277-5	Listed

## Well 5 : 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%	205-778-1	Listed

## Well 6 : 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%	205-778-1	Listed

## 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 : Distilled water

CHEMILCAL IDENTIT	CAS No.	Content (%)	EINECS No.	TSCA (Listed or not Listed)
Water	7732-18-5	100%	231-791-2	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.4)  
All plastic packaging contain clear, aqueous solutions (Others)
- pH :** 5.0-8.0
- MELTING POINT :** Not available
- INITIAL BOILING POINT :** 80.6°C (Well No.5) , 80.8°C (Well No.6) , 81.4°C (Well No.7)
- FLASH POINT :** 19.0°C (Well No.5) , 21.4°C (Well No.6) , 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.4)  
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.2, No.3)
- CONDITIONS TO AVOID :** Sunlight, heat, moisture (Well No.2, No.3)
- INCOMPATIBLE MATERIALS :** Oxidizers, acetic anhydride, calcium oxychloride, chromium oxides, alkali metal hydrides (Well No.2, No.3)
- HAZARDOUS DECOMPOSITION PRODUCTS :** Carbon monoxide and corrosive gas (acrolein) may be formed. (Well No.2, No.3)

**11. TOXICOLOGICAL INFORMATION**

Well No.1 Lysis Solution as Guanidine hydrochloride

ACUTE TOXICITY DATA : LD50(oral, rat): 475 mg/kg(NTIS\*\* AD-A165-747)  
 LD50(oral, mouse): 571 mg/kg(ATDAE1 12, 598, 1993)  
 LD50(ipr, mouse): 500 mg/kg(NTIS\*\* AD277-689)

IRRITATION DATA : Skin; rabbit; 500 mg/24H; Severe(NTIS\*\* AD-A166-306)  
 Eye; rabbit; 81,400 µg; Moderate(NTIS\*\* AD-A184-068)

MUTATION DATA : Mutation in microorganisms; S.cerevisiae; 4 mmol/L(BBRCA9 53, 531, 1973)

REPRODUCTIVE EFFECTS DATA : Not available

TUMORIGENIC DATA : Not available

Well No.5,6, and 7 as 95% sodium dodecyl sulfate.

ACUTE TOXICITY DATA : LD50(oral, rat): 1288 mg/kg(FCTXAV 5, 763, 1967)  
 LC50(Inhalation ihl, rat): 3900 mg/m<sup>3</sup>/1H(BIOFX\* 23-3/1971)

IRRITATION DATA : Eye; rabbit; 100 mg/24H; Moderate(28ZPAK -,305,72)  
 Skin; rabbit; 50 mg/24H; Severe (BIOFX\* 23-3/71)  
 Eye; human; 0.5 %/47H; Mild(JIDEAE 11, 474, 1984)

MUTATION DATA : DNA repair; E.coli; 12500 nl/well(MUREAV 158, 19, 1985)  
 DNA damage; rat; liver; 243 µmol/L(EMMUEG 24, 181, 1994)

REPRODUCTIVE EFFECTS DATA : TDLo (skin, mouse): 480 mg/kg(6-17 D preg)(TRENAP 27, 113, 1976)

TUMORIGENIC DATA : Not available

ADDITIONAL INFORMATION ;  
 NTP : Not listed  
 IARC : Not listed  
 OSHA : Not listed  
 ACGIH :Not listed

Well 5, 6, 7 as 100 % 2-propanol

ACUTE TOXICITY DATA : LD50(oral, mouse): 3600 mg/kg  
 LD50(oral, rabbit): 571 mg/kg(ATDAE1 12, 598, 1993)  
 LD50(ipr, mouse): 500 mg/kg(NTIS\*\* AD277-689)

IRRITATION DATA : Skin; rabbit; 12800 mg/24H

**12. ECOLOGICAL INFORMATION**

ECOTOXICITY : Not available  
 PERSISTENCE AND DEGRADABILITY : Not available.  
 BIOACCUMULATION POTENTIAL : Not available  
 MOBILITY IN SOIL : Not available  
 OTHER ADVERSE EFFECTS : Not available

**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

IMDG : 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 &amp; 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 Vapors 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.