SECTION 1: Identification of the substance/mixture and of the company/undertalking

1.1 Product identifier

Product name: **Magnesium Test Solution #3**
Synonyms: **Reagent # 1116**

1.2 Relevant identified uses of the substance of mixture and uses advised against

Magnesium Test Solution for product TK-108.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Individual entrepreneur Mandryka Oksana
Str, Zoryana, 20, vil. Obuhovka,
Dnipro reg. 52030
Ukraine
+380661980427
main@rikka.ua

Further information obtainable from: Product department: main@rikka.ua

1.4 Emergency telephone number:

N/A

SECTION 2: Hazards identification

2.1 Classification of substance/mixture

Classification according to Regulation (EC) No 1272/2008

Eye Irrit. 2A H319
Skin Irrit. 2 H315

See section 16 for the full text of the hazard statements declared above

2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.

Hazard pictogram(s):

GHS07 Acutely toxic(harmful)

Signal word: Warning

Hazard statement(s):
H302 Harmfull if swallowed.

Precautionary Statement(s): Prevention
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s) Response
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.

Precautionary statement(s) Storage
Not Applicable

Precautionary statement(s) Disposal
Not Applicable

2.3 Other hazards:
Not available.

SECTION 3: Composition/information of dangerous ingredients

Substance name	Identifiers	%	CLP Classification
EDTA Disodium Salt	CAS: 6381-92-6	1-6	Not classified
Sodium hydroxide	CAS: 1310-73-2	1-3	Eye Irrit. 2A H319 Skin Corr. 1A H314

See section 16 for the full text of the H-statements declared above.

There are no additional ingredients present, which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures
General information: No special measures required.
After inhalation:
If fumes or combustion products are inhaled, remove from contaminated area.
Lay patient down. Keep warm and rested.
Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
Transport to hospital, or doctor, without delay.
Inhalation of vapors or aerosols (mists, fumes) may cause lung oedema.
Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).
As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.
Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.
After skin contact:

Immediately flush body and clothes with large amounts of water, using safety shower if available.
Quickly remove all contaminated clothing, including footwear.
Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.
Transport to hospital, or doctor.

After eye contact:

Immediately hold eyelids apart and flush the eye continuously with running water.
Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
Transport to hospital or doctor without delay.
Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

After swallowing:

For advice, contact a Poisons Information Centre or a doctor at once.
Urgent hospital treatment is likely to be needed.
If swallowed do NOT induce vomiting.
If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
Observe the patient carefully.
Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
Transport to hospital or doctor without delay

4.2 Most important symptoms and effects, both acute and delayed:

See section 2.2 (Label elements) and/or section 11 (Toxicological information) for the mostimportant known symptoms and effects.

4.3 Indication of any immediate medical attention and special treatment needed

For acute or short term repeated exposures to highly alkaline solutions:

Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue.

INGESTION:

Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
DO NOT attempt to neutralise the alkali since exothermic reaction may extend the corrosive injury.
Be careful to avoid further vomit since re-exposure of the mucosa to the alkali is harmful. Limit fluids to one or two glasses in an adult.
Charcoal has no place in acid management.
Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.

EYE:

Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs. Irrigation should last at least 20-30 minutes. DO NOT use neutralizing agents or any other additives. Several litres of saline are required.
Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

For acute or short-term repeated exposures to highly alkaline materials:
Respiratory stress is uncommon but present occasionally because of soft tissue edema.
Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary.
Oxygen is given as indicated.
The presence of shock suggests perforation and mandates an intravenous line and fluid administration.
Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue.
Alkalis continue to cause damage after exposure.
INGESTION:
Milk and water are the preferred diluents. No more than 2 glasses of water should be given to an adult.
Neutralising agents should never be given since exothermic heat reaction may compound injury.
Catharsis and emesis are absolutely contra-indicated.
Activated charcoal does not absorb alkali.
Gastric lavage should not be used.
Supportive care involves the following:
Withhold oral feedings initially.
If endoscopy confirms transmucosal injury start steroids only within the first 48 hours.
Carefully evaluate the amount of tissue necrosis before assessing the need for surgical intervention.
Patients should be instructed to seek medical attention whenever they develop difficulty in swallowing (dysphagia).
SKIN AND EYE:
Injury should be irrigated for 20-30 minutes.
Eye injuries require saline.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable: CO_2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Not Suitable: No further relevant information available.

5.2 Special hazards arising from the substance or mixture:
No further relevant information available.
The reagents tend to be water based and are not combustible or explosive. When heated sufficiently, product may decompose to form smoke and toxic fumes, gases or vapours that may cause dizziness.
Toxic fumes may be evolved on thermal decomposition.

5.3 Advice for firefighters
Fire Fighting
Alert Fire Brigade and tell them location and nature of hazard.
Wear full body protective clothing with breathing apparatus in positive pressure mode.
Prevent, by any means available, spillage from entering drains or water course.
Use fire fighting procedures suitable for surrounding area.
Fire/Explosion Hazard
Non combustible.

Not considered to be a significant fire risk.
Alkalis may react with some metals to produce hydrogen, a highly flammable and explosive gas.
Heating may cause expansion or decomposition leading to violent rupture of containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedure:
Wear protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Ventilate area of spill. Keep unprotected persons away.

6.2 Environmental precautions:
Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:
For liquids: Contain spillage, and then absorb with liquid-blinding material (sand, diatomite, universal binders, sawdust). Use neutralising agent. Place in container for disposal according to local / national regulations.
For solid: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

6.4 Reference to the other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:
Avoid contact with skin and eyes. Avoid inhalation of vapors, mist or gas. Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice.
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also section 8 for additional information measures.
Information about fire and explosion protection: No special method required.

7.2 Conditions for safe storage, including any incompatibilities
Storage: Keep only in original container. Avoid large temperature changes and store in a cool, dry, well ventilated environment and away from direct sunlight. Keep containers closed when not in use. Keep away from acids, alkalis, oxidizing compounds and metals.
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: No required.
Further information about storage conditions: None.

7.3 Specific end use(s):
No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Ingredients with limit values that require monitoring at the workplace:

Substance name	Occupational exposure limits
Sodium hydroxide	ACGIH-TLV 2 mg/m^3 (CEIL)

	OSHA-PEL 2 mg/m^3 (TWA) NIOSH-REL 2 mg/m^3 (CEIL), 15M

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:
The usual precautionary measures are to be adhered to when handling chemicals.
Respiratory protection: Wear appropriate respirator when ventilation is inadequate. Be sure to use an approved/certified equipment or equivalent equipment.
Protection of hands:
The glove material has to be impermeable and resistant to the product/the substance/the preparation. Selection of glove material on consideration of the penetration times, rates of diffusion and the degradation.
Materials of gloves:
The selections of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.
Penetration time of glove material:
The exact break through times has to be found out by manufacturer of the protective gloves and has to be observed. For the permanent contact gloves made of the following materials are suitable: NATURAL RUBBER, NATURAL+NEOPRENE, NEOPRENE, NEOPRENE/NATURAL, NITRILE, PE, PVC, SARANEX-23. Recommended thickness of the material: ≥ 0.4 mm
Eye protection: Safety glasses with imperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure.
Chemical goggles whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted.
Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; have these afforded face protection.
Alternatively a gas mask may replace splash goggles and face shields.
Skin protection: Wear appropriate long-sleeved clothing to minimize skin contact.

During normal non-professional use of the chemical kit no personal protective equipment is required. However, in case of manufacture or spillage, use as appropriate to the size of the spill.

Environmental exposure controls: Not available
Other protection:
Overalls.
PVC Apron.
PVC protective suit may be required if exposure severe.
Eyewash unit.

SECTION 9: Physical and chemical properties

Appearance:	Colorless liquid

Odour:	None
Odour threshold:	N/A
pH	N/A
Melting point/Freezing point:	Not determined
Initial boiling point/boiling range:	Not determined
Flash point:	Not applicable
Evaporation rate:	Not determined
Flammability:	Liquid is non-combustible
Upper/lower flammability or explosive limits:	Liquid is non-combustible
Vapor pressure:	Not determined
Vapor density:	Not determined
Relative Density:	Not determined
Solubility(water):	Completely soluble to give an alkaline solution
Partition coefficient Octanol/Water:	Not determined
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Viscosity:	Not determined
Explosive properties:	Product does not present an explosion hazard
Oxidizing properties:	Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity:
No further relevant information available.

10.2 Chemical stability:
No decomposition if used according to specifications. See section 7.

10.3 Possibility of hazardous reactions:
Hazardous reactions are not expected, under normal conditions of storage and use. See section 7.

10.4 Conditions to avoid:
Long term exposure to heat and direct sunlight.

10.5 Incompatible materials:
Acids, alkalis, oxidising compounds and metals. May produce heat.

10.6 Hazardous decomposition product:
Other decomposition products: not available. In the event of fire: see section 5.

SECTION 11: Toxicological information

11.1 Information of toxicological effects

Product/substance name	Test	Species	Dose
Sodium hydroxide	LD50, Oral	Rat	325 mg/kg

Inhaled: Inhalation of **alkaline** corrosives may produce irritation of the respiratory tract with coughing, choking, pain and mucous membrane damage. Pulmonary oedema may develop in more severe cases; this may be immediate or in most cases following a latent period of 5-72 hours. Symptoms may include a tightness in the chest, dyspnoea, frothy sputum, cyanosis and dizziness. Findings may include hypotension, a weak and rapid pulse and moist rales.

Ingestion: Ingestion of **alkaline** corrosives may produce immediate pain, and circumorally burns. Mucous membrane corrosive damage is characterized by a white appearance and soapy feel; this may then become brown, edematous and ulcerated. Profuse salivation with an inability to swallow or speak

may also result. Even where there is limited or no evidence of chemical burns, both the esophagus and stomach may experience a burning pain; vomiting and diarrhea may follow.

Skin Contact: Skin contact with **alkaline** corrosives may produce severe pain and burns; brownish stains may develop. The corroded area may be soft, gelatinous and necrotic; tissue destruction may be deep.

Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects

Eye: When applied to the eye(s) of animals, the material produces severe ocular lesions, which are present twenty-four hours or more after instillation.

Direct contact with **alkaline** corrosives may produce pain and burns. Edema, destruction of the epithelium, corneal opacification and iritis may occur. In less severe cases, these symptoms tend to resolve.

Chronic: Repeated or prolonged exposure to alkalis may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.

CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure: Based on available data, the classification criteria are not met.

STOT-repeated exposure: Based on available data, the classification criteria are not met.

Aspiration hazard: Based on available data, the classification criteria are not met.

Other effects:

Sodium hydroxide is also present in Magnesium Reagent Ca#3, but at a much lower level than Magnesium Reagent Ca#1 and may cause irritation in contact with tissue of the eyes and skin. Inhalation of spray or mist will irritate the respiratory system and ingestion may damage the linings of the mouth, throat and gastro-intestinal tract.

SECTION 12: Ecological information

12.1 Toxicity:

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability:

Not available.

12.3 Bioaccumulative potential:

Compounds present in the reagents would be readily bio-degradable in the environment.

12.4 Mobility in soil:

Though there is no specific information on the mobility of compounds in the reagents, they are soluble under normal environmental conditions in water so would also be expected to be highly mobile in soil.

Additional ecological information:

General notes:

Slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

12.5 Results of PBT and vPvB assessment

- **PBT**: Not applicable.
- **vPvB**: Not applicable.

12.6 Other adverse effects:

–

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation: Dispose of empty containers in the household refuse. Rinse small amounts of product residue out with water. Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Uncleaned packaging: Empty containers should be taken for local recycling, recovery or waste disposal.

Reccomendation: Disposal must be made according to local regulations.

SECTION 14: Transport information

14.1 UN number - **ADR, ADN, IMDG, IATA**	 3316
14.2 UN proper shipping name - **ADR** - **AND** - **IATA**	 CHEMICAL KIT CHEMICAL KIT CHEMICAL KIT
14.3 Transport hazard class(es) - **ADR, ADN, IMDG, IATA** - **Class** - **Label**	 9 Miscellaneous 9
14.4 Packing group - **ADR, ADN, IMDG, IATA**	 II
14.5 Environmental hazards - **Marine pollutant:**	 No
14.6 Special precautions for user - **Danger code (Kemler):** - **EMS Number:** - **Segregation groups** - **Stowage Category** - **Stowage Code**	Not available
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.

SECTION 15: Regulatory information

This SDS complies with the following requirements of:
EU Regulation (EC) No.1907/2006 (REACH) including amendments
Regulation (EC) No.1272/2008 (CLP)
29 CFR 1910.1200 (OSHA HCS)

15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture.

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

TSCA inventory

All components of the product are listed in the TSCA inventory.

SECTION 16: Other information

Health hazard: 3 Fire hazard: 0 Reactivity hazard: 0 Specific hazard: ALK

Full text of Hazards Statements referred to in sections 2 and 3:

Met. Corr. - Substance or mixture corrosive to metals
Skin Corr. - Skin corrosion
Eye Irrit.- Eye irritation
H290: May be corrosive to metals.
H314: Causes severe skin burns and eye damage.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318 Causes serious eye damage
H335: May cause respiratory irritation.

Training advice: Before using/handling the product one must read carefully present SDS.

Key Legend Information:

CAS - Chemical Abstract Service
ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
N/A - Not available
H-statements - Hazard statements
TLV - Threshold Limit Value
TWA - Time-weighted average
STEL - Short-Term Exposure Limit
CSA - Chemical safety assessment
TSCA - United States Toxic Substances Control Act Inventory

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