

Material Safety Data Sheet

Manufacturer :	ARCHEM Co. O.S.B. İkitelli San. Sit. B-2 Blok No:4 İkitelli / ISTANBUL TURKEY
Phone / Fax	0090 212 485 22 99 0090 212 444 0 892 0090 212 629 98 89
WEB Mail	www.archem.com.tr / info@archem.com.tr

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1. Identification of the preparation.

	CAT NO.
ALAT 5*100	A2240
ALAT 5*50	A2241
ALAT BULK	A2240B

2. Composition / information on components.

1-FERRUM; 1-REAGENT	
hydroxylamine hydrochloride	Contains: < 6%
CAS number:	5470-11-1
WE number:	226-798-2;
Index number:	612-123-00-2 Harmfulness: Xn, N; Phrases: R 22-36/38-43-48/22-50; S (2-)22-24-37
Tiosemicarbazide	Contains < 0,1 %
CAS number:	79-19-6
WE number:	201-184-7
Index number: -	Harmfulness: T+; Phrases: R 26/27/28; S: 45-36/37/39-22
hydrochloric acid	Contains < 1%
CAS number:	7647-01-0
WE number:	231-595-7
Index number:	017-002-01-32(37) Harmfulness: C; Phrases: R: 34-37; S: (1/2)26-45
Tiosemicarbazide	Contains: < 0,1%
CAS number:	79-19-6
WE number:	201-184-7
Index number: -	Harmfulness: : T+; Phrases: R 26/27/28; S: 45-36/37/39-22
hydrochloric acid 37% lub 32%	Contains: < 1,3%
CAS number:	7647-01-0

WE number:	231-595-7		
Index number:	017-002-01-32(37)	Harmfulness: C; Phrases: R: 34-37; S: (1/2)26-	
3-STANDARD			
hydrochloric acid 32% lub 37%		Contains: < 0,3%	
CAS number: WE number: 231-595-7	7647-01-0		
Index number:	017-002-01-32(37)	Harmfulness: C; Phrases: R: 34-37; S: (1/2)26-	
Kwas benzoesowy		Zakres st45e6: 0,05%-1%	
CAS number:	65-85-0		
WE number	200-618-2		
Index number-	brak	Harmfulness: Xn; Phrases: R 22-36; S: 24	

3. Hazards Identification.

1-FERRUM; 1-REAGENT

Irritating

May cause sensitization by skin contact.

4. First-Aid Measures.

After exposure by respiratory tract: fresh air. If the sufferer unwell, consult a doctor.

After contamination of eyes: rinse with large amount of water. consult a doctor.

After skin contamination: wash off with large amount of water. Take off contaminated clothing.

After consumption: give the sufferer a lot of water to drink, evoke vomiting. If the sufferer feels unwell, consult a doctor/ambulance.

In case of occurrence of any alarming symptoms call a doctor immediately or take the sufferer to hospital, show the package of the preparation, or its label.

5. Fire Fighting Measures:

Appropriate smothering agents:

Water, powder, foam. During fire thermal decomposition of the substances contained in the preparation may occur. As a result of that toxic smokes and gases may be formed, which contain in. a hydrochloric acid, nitric and sulfuric oxides, hydrogen chloride gas. Notify the neighbourhood of fire Remove from the endangered area all persons not taking part in the liquidation of fire Notify the State Fire Brigade, the State Police, the immediate local authorities, and if necessary, the immediate Chemical Rescue Unit The rescuers must be equipped with protective clothing and respiratory tract isolating equipment, irrespective of ambient air Cool the endangered containers with a stream of water

Other information:

Noncombustible substance, cover escaping vapours with water.

6. Accidental Release Measures:

Preventive measures related to the staff:

Avoid contamination with the preparation.
Notify the neighbourhood of the breakdown.
Do not inhale vapours/aerosols.
Secure the flow of fresh air into closed rooms.

Cleaning /absorption procedures :

Carefully collect the fluids with the use of an absorbing substance, forward them to liquidation Clean the contaminated ground Do not let the substance penetrate into the sewage system Use liquid-binding substances (e.g. sand, wood flour, universal binding substances, diatomaceous earth), utilize the used materials in accordance with appropriate regulations, agree upon the manner of utilization with the environment Protection Department of the Provincial Office.

7. Handling and Storage:**Procedures:**

In accordance with the norms generally accepted for chemicals in laboratories. While working with the preparation, one should use appropriate means of personal protection (see pt. 8) Avoid contact of the preparation with skin and eyes, as well as inhaling its mists Secure efficient local ventilation You must not have meals, drink, or smoke tobacco while working with the preparation, except in places designed for that purpose.

Storage:

Store the product in cool (recommended temperature: 2-8 0C) and well-ventilated rooms, do not expose to light.
Store in original, manufacturer's packages.
Store in closed containers.
Secure the containers from damage.
Do not store with food and fodder.

8. Exposure Controls/ Personal Protection:**Appropriate control parameter:**

See Turkish regulations.

Hydrogen chloride

NDS – 5 mg/m³, NDSC_h – 10 mg/m³. **EC:** NDS – 5 mg/m³, NDSC_h – 8 mg/m³.

Nitrogen oxides

NDS – 5 mg/m³, NDSC_h – 10 mg/m³.

Personal protective equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory passages: Apply in rooms with efficiently working ventilation, avoid inhaling product mists, use respiratory tract-protective agents

Eyes: avoid direct contact of the product with eyes use glasses.

Hands: avoid direct contact of the product with skin, immediately take off clothes soiled with the preparation and wash contaminated skin with soapy water, use personal protective, clothing and protective gloves:

In full contact: In splash contact:

Glove material: nitrile rubber Glove material: nitrile rubber

Layer thickness: 0,11 mm Layer thickness: 0,11 mm

Breakthrough time: > 480 Min. Breakthrough time: > 480 Min.

Industrial hygiene: you must not have meals, drink, or smoke tobacco while working with the preparation, except in places designed for that purpose. Wash your hands after work with the substance carefully with soapy water. Apply skin-protective barrier cream.

9. Physical and Chemical Properties.

	1-FERRUM 1-REAGENT	2-FERRUM 2-REAGENT	3- STANDARD:
Form:	clear solution	clear solution	clear solution
Colour:	colourless	straw to yellow	colourless
Odour:	odourless	slight smell of vinegar	odourless
Vapour pressure:	no data available	no data available	no data available
Boiling temperature:	no data available	no data available	no data available
Melting temperature:	no data available	no data available	no data available
Ignition temperature:	incombustible	incombustible	incombustible
Flammability:	incombustible	incombustible	incombustible
Density:	1,028 g/cm ³ (20 °C)	1,006 g/cm ³ (20°C)	1,000 g/cm ³ (20° C)
pH:	4,5 (25°C)	4,5 (25°C)	max.2,00 (25°C)

10. Stability and Reactivity:

Conditions that should be avoided:

Excessive heating.

Substances that should be avoided:

Metals; lead, copper, silver, gold, mercury, bronze and their chlorides, hydrazine, bromine, carbon disulfide, barium carbonate, dimethyl sulfate, dibromomalonitril, acids, strong oxidants.

Haszardous decomposition products:

Sulfur, nitrogen, potassium, sodium oxides, *hydrogen chloride gas* and cyanides.

Further information:

The product is stable in conditions provided by the manufacturer.

11. Toxicological Information:

No data for the preparation. The preparation toxicity evaluation is based on evaluation of the toxicity of particular components.

Tiosemicarbazide

Acute toxicity:

- DL50(ORL-RAT): 9,16 mg/kg - DL50(ORL-CAT): 20 mg/kg
- DL50(IPR-MUS): 1,0 mg/kg - DL50(ORL-RBT): 13 mg/kg
- DL50(SCU-MUS): 16407 µg/kg - DL50(SKN-RBT): 2200 mg/kg
- DL50(IVN-MUS): 13 mg/kg - DL50(IPR-GPG): 24 mg/kg
- DL50(ORL-DOG): 10 mg/kg - DL50(ORL-BWD): 9,1 mg/kg

Route of exposure:

Skin contact: May cause skin irritation.

Skin absorption: May be harmful if absorbed through the skin.

Eye contact: May cause eye irritation.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: May be fatal if swallowed.

Chronic exposure – carcinogen

Rat

Route of application: oral - 1024 mg/kg

Exposure time: 78 W

Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors.

RatRoute of application: oral - 2048 mg/kg

Exposure time: 78 W

Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors.

Chronic Exposure – Mutagen

Human 20 µmol/l

Cell Type: HeLa cell

DNA damage

hydroxylamine hydrochloride

Acute toxicity:

- LD50: (oral, rat): 141 mg/kg

Remarks: Behavioral: Convulsions or effect on seizure threshold.

- LD50(oral, mouse): 408 mg/kg

- LD50(intraperitoneal, mouse): 10 mg/kg

- LD50(subcutaneous, mouse): 125 mg/kg

Sensitization: Skin: May cause allergic skin reaction.

Sings and symptoms of exposure:

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer. May cause convulsions.

Route of exposure:

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: Toxic if swallowed.

Target organ information: Blood.

Chronic exposure – Mutagen:

Species Dose Cell Type Mutation Test

Human 10 mg/l Other cell types Other mutation test systems

Human 25 mg/l leukocyte Cytogenetic analysis

Rat 19500 NG/PLATE Embryo Morphological transformation

Mouse 220 mg/l (+S9) lymphocyte Mutation in microorganisms

Mouse 31300 UG/L lymphocyte Mutation in mammalian somatic cells

Hamster 72 UMOL/L Other cell types Cytogenetic analysis

Hamster 5 MMOL/L lung Sister chromatid exchange

Monkey 50 MG/L kidney Micronucleus test

Monkey 25 MG/L kidney Other mutation test systems

Mammal 500 MG/L lymphocyte Cytogenetic analysis

Mammal 25 MG/L lymphocyte Sister chromatid exchange

ZNEG Histidine reversion (Ames)

Route of application: oral - 2048 mg/kg

Exposure time: 78 W

Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and

Appendages: Other: Tumors.

Chronic Exposure – Mutagen

Human 20 µmol/l

Cell Type: HeLa cell

DNA damage

hydroxylamine hydrochloride

Acute toxicity:

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Route of exposure:

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: Toxic if swallowed.

Target organ information: Blood.

Chronic exposure – Mutagen:

Species Dose Cell Type Mutation Test

Human 10 mg/l Other call types Other mutation test systems
 Human 25 mg/l leukocyte Cytogenetic analysis
 Rat 19500 NG/PLATE Embryo Morphological transformation
 Mouse 220 mg/l (+S9) lymphocyte Mutation in microorganisms
 Mouse 31300 UG/L lymphocyte Mutation in mammalian somatic cells
 Hamster 72 UMOL/L Other call types Cytogenetic analysis
 Hamster 5 MMOL/L lung Sister chromatid exchange
 Monkey 50 MG/L kidney Micronucleus test
 Monkey 25 MG/L kidney Other mutation test systems
 Mammal 500 MG/L lymphocyte Cytogenetic analysis
 Mammal 25 MG/L lymphocyte Sister chromatid exchange
 ZNEG Histidine reversion (Ames)

12. Ecological Information:

No data for the preparation. The evaluation was performed on the basis of the properties of its components.

Tiosemicarbazide

No data available.

Ecotoxicological effects:

Fisch: Pimephales promelas; LC50: 20,8 mg/l/96 h

Further ecologic data: Do not allow to enter waters, waste water, or soil!

hydroxylamine hydrochloride

No data available.

Ecotoxicological effects:

Fisch: Leuciscus idus LC50: 1-10 mg/l /48 h

Further ecologic data:

Do not allow to enter waters, waste water, or soil.

13. Disposal Considerations:

Product:

Chemical residues, in general, are included into special waste. Disposing of the latter is regulated by appropriate laws and ordinances. We recommend contacting the appropriate authorities, or waste disposal enterprises that will advise you on how to dispose of special waste.

Packing:

Remove in accordance with official regulations. Treat contaminated packages in the same way as the substance itself. If the regulations do not provide otherwise, non-contaminated packages can be treated like household waste or forward them to be utilized.

14. Transportation Information:

The product is not subject to transport regulations.

15. Regulatory Information:

Material Safety Data Sheet was prepared in accordance with:

The EC Directive Nr UE2001/58/WE, the EC Directive Nr 1999/45/EG, the EC Directive 67/548 EEC, EC Directive 88/379/EEC or the EC Directive 91/155/EEC (Dangerous Product Regulations incl. EC Guidelines). See Turkish regulations.

Marking:**Irritating**

Contains hydroxylamine hydrochloride.

Xn - Irritating

Risk phrases (R):

R 43 – May cause sensitization by skin contact.

Safety phrases (S):

S 24 – Avoid contact with skin.

S 28 – After contact with skin, wash immediately with plenty of water

S 37 – Wear suitable gloves.

16. Other Information.

R 43 – May cause sensitization by skin contact.

The foregoing information is based on the present state of our knowledge. It characterizes the product with respect to the appropriate safety measures. They do not guarantee the properties of the product. We do not take responsibility for damage and losses that may result from inappropriate use of the preparation.

Reason of changes:

The foregoing safety chart prepared in electronic version is legally valid without sign manual.