

MATERIAL SAFETY DATA SHEET (MSDS)

MSDS: L3877

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET - L3877

HANNA INSTRUMENTS
HI 3810-0 TITRANT SOLUTION
HEALTH & SAFETY DATA SHEET
ACCORDING TO EC DIRECTIVE 91/155/EC AND FOLLOWING AMENDMENTS
DATE OF ISSUE: 04 NOVEMBER 2004.

SECTION 1 - IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

PRODUCT NAME: HI 3810-0 TITRANT SOLUTION.
APPLICATION: TITRATION REAGENT.
MANUFACTURER IDENTIFICATION:
HANNA INSTRUMENTS ITALIA S.R.L.
VIALE DELLE INDUSTRIE, 12/A
35012 VILLAFRANCA PADOVANA
ITALY
TEL. NO.: +39-049-9070211
EMERGENCY TELEPHONE NO.: NO HAZARDOUS PRODUCT.

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

AQUEOUS SOLUTION.

SECTION 3 - HAZARD IDENTIFICATION

NO HAZARDOUS PRODUCT AS SPECIFIED IN DIRECTIVE 67/548/EEC.

SECTION 4 - FIRST AID MEASURES

AFTER INHALATION: IF INHALED REMOVE TO FRESH AIR.
AFTER SKIN CONTACT: WASH OFF WITH WATER AND SOAP.
AFTER EYE CONTACT: RINSE OUT WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.
AFTER SWALLOWING (LARGE AMOUNTS): SUMMON DOCTOR IF FEELING UNWELL.

SECTION 5 - FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:
WATER SPRAY, FOAM, DRY POWDER OR CARBON DIOXIDE.
SPECIAL RISKS:
NON COMBUSTIBLE. DEVELOPMENT OF HAZARDOUS COMBUSTION GASES OR VAPORS
POSSIBLE IN THE EVENT OF FIRE.
THE FOLLOWING MAY DEVELOP IN EVENT OF FIRE: SULFUR DIOXIDE.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING:
DO NOT STAY IN DANGEROUS ZONE WITHOUT SUITABLE CHEMICAL PROTECTION CLOTHING
AND SELF-CONTAINED BREATHING APPARATUS.
ADDITIONAL INFORMATION: CONTAIN ESCAPING VAPORS WITH WATER.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: DO NOT INHALE VAPORS/AEROSOLS.
PROCEDURES FOR CLEANING / ABSORPTION:
TAKE UP WITH LIQUID-ABSORBENT MATERIAL. FORWARD FOR DISPOSAL. CLEAN UP
AFFECTED AREA.

SECTION 7 - HANDLING AND STORAGE

HANDLING: CANNOT BE STORED INDEFINITELY.
STORAGE:
TIGHTLY CLOSED. IN A WELL-VENTILATED PLACE. AT +15 DEG. C TO +25 DEG. C.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT: AS APPROPRIATE TO QUANTITY HANDLED.
PROTECTIVE GLOVES: RUBBER OR PLASTIC.
RESPIRATORY PROTECTION: REQUIRED WHEN VAPORS/AEROSOLS ARE GENERATED.
EYE PROTECTION: GOGGLES OR FACE MASK.

SECTION 9 - PHYSICAL/CHEMICAL PROPERTIES

APPEARANCE: COLORLESS LIQUID
DENSITY AT 20 DEG. C: 1.0 G/CM3
ODOR: ODORLESS
FLASH POINT: NA
SOLUBILITY IN WATER: SOLUBLE

EXPLOSIVE PROPERTIES: NA
MELTING POINT: NA
EXPLOSION LIMITS: NA
BOILING POINT: >100 DEG. C
IGNITION TEMPERATURE: NA
pH VALUE AT 20 DEG. C: 8.2

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO BE AVOIDED: HEATING.
HAZARDOUS DECOMPOSITION PRODUCTS:
IN THE EVENT OF FIRE: SEE SECTION 5.
SUBSTANCES TO BE AVOIDED: STRONG OXIDIZING AGENTS.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION 11 - TOXICOLOGICAL INFORMATION

QUANTITATIVE DATA ON THE TOXICITY OF THIS PRODUCT ARE NOT AVAILABLE.
FURTHER TOXICOLOGICAL INFORMATION:
HAZARDOUS PROPERTIES CANNOT BE EXCLUDED BUT ARE UNLIKELY WHEN THE PRODUCT
IS HANDLED APPROPRIATELY.
FURTHER DATA:
THE PRODUCT SHOULD BE HANDLED WITH THE CARE USUAL WHEN DEALING WITH
CHEMICALS.

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXIC EFFECTS:
QUANTITATIVE DATA ON THE ECOLOGICAL EFFECT OF THIS PRODUCT ARE NOT
AVAILABLE.
NO ECOLOGICAL PROBLEMS ARE TO BE EXPECTED WHEN THE PRODUCT IS HANDLED AND
USED WITH DUE CARE AND ATTENTION.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: CAN BE SAFELY DISPOSED OF AS AN ORDINARY REFUSE.

SECTION 14 - TRANSPORT INFORMATION

LAND TRANSPORT:
ADR/RID: 9/UN 3316/PGII
NAME: CHEMICAL KIT
SEA TRANSPORT:
IMDG: 9/UN 3316/PGII
NAME: CHEMICAL KIT
MARINE POLLUTANT: NO
AIR TRANSPORT:
ICAO/IATA: 9/UN 3316/PGII
NAME: CHEMICAL KIT
THESE TRANSPORT DATA APPLY TO THE ENTIRE PACK!

SECTION 15 - REGULATORY INFORMATION

LABELING ACCORDING TO EC DIRECTIVES:
SYMBOL:
R-PHRASES:
S-PHRASES:
CONTAINS:

SECTION 16 - OTHER INFORMATION

SUPERSEDES EDITION OF: JUNE 2002.
REASON FOR REVISION:
CHANGE IN LABELING DUE TO REEVALUATION OF CONSTITUENTS.
LEGEND:
NA: NOT APPLICABLE
ND: NOT DETERMINED

THE INFORMATION CONTAINED HEREIN IS BASED ON THE PRESENT STATE OF OUR
KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO THE APPROPRIATE
SAFETY PRECAUTIONS. IT DOES NOT REPRESENT A GUARANTEE OF THE PROPERTIES OF
THE PRODUCT.

PKC0005
HANNA INSTRUMENTS
HI 3811-0 SOLUTION
HEALTH & SAFETY DATA SHEET
ACCORDING TO EC DIRECTIVE 91/155/EC AND FOLLOWING AMENDMENTS
DATE OF ISSUE: 04 NOVEMBER 2004.

SECTION 1 - IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

PRODUCT NAME: HI 3811-0 SOLUTION.

APPLICATION: TITRATION REAGENT.

MANUFACTURER IDENTIFICATION:
HANNA INSTRUMENTS ITALIA S.R.L.
VIALE DELLE INDUSTRIE, 12/A
35012 VILLAFRANCA PADOVANA
ITALY

TEL. NO.: +39-049-9070211

EMERGENCY TELEPHONE NO.: NO HAZARDOUS PRODUCT.

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

AQUEOUS SOLUTION.

SECTION 3 - HAZARD IDENTIFICATION

NO HAZARDOUS PRODUCT AS SPECIFIED IN DIRECTIVE 67/548/EEC.

SECTION 4 - FIRST AID MEASURES

AFTER INHALATION:
IF INHALED REMOVE TO FRESH AIR. IF BREATHING BECOMES DIFFICULT, CALL A PHYSICIAN.

AFTER SKIN CONTACT: WASH OFF WITH WATER AND SOAP.

AFTER EYE CONTACT:
RINSE OUT WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF PAIN PERSISTS, SUMMON MEDICAL ADVICE.

AFTER SWALLOWING:
IMMEDIATELY MAKE VICTIM DRINK PLENTY OF WATER. SUMMON DOCTOR IF PAIN PERSISTS.

SECTION 5 - FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:
WATER SPRAY, FOAM, DRY POWDER OR CARBON DIOXIDE.

SPECIAL RISKS:
NON COMBUSTIBLE. DEVELOPMENT OF HAZARDOUS COMBUSTION GASES OR VAPORS POSSIBLE IN THE EVENT OF FIRE.

THE FOLLOWING MAY DEVELOP IN THE EVENT OF FIRE: HYDROCHLORIC ACID.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING:
DO NOT STAY IN DANGEROUS ZONE WITHOUT SUITABLE CHEMICAL PROTECTION CLOTHING AND SELF-CONTAINED BREATHING APPARATUS.

ADDITIONAL INFORMATION: CONTAIN ESCAPING VAPORS WITH WATER.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: DO NOT INHALE VAPORS/AEROSOLS.

PROCEDURES FOR CLEANING / ABSORPTION:
TAKE UP WITH LIQUID-ABSORBENT MATERIAL. FORWARD FOR DISPOSAL. CLEAN UP AFFECTED AREA.

ADDITIONAL NOTES:

RENDER HARMLESS:
NEUTRALIZE WITH DILUTED SODIUM HYDROXIDE SOLUTION OR BY THROWING ON LIME, LIME SAND, OR SODIUM CARBONATE.

SECTION 7 - HANDLING AND STORAGE

HANDLING: CANNOT BE STORED INDEFINITELY.

STORAGE:
TIGHTLY CLOSED. IN A WELL-VENTILATED PLACE. AT +15 DEG. C TO +25 DEG. C.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT: AS APPROPRIATE TO QUANTITY HANDLED.

PROTECTIVE GLOVES: RUBBER OR PLASTIC.

RESPIRATORY PROTECTION: REQUIRED WHEN VAPORS/AEROSOLS ARE GENERATED.

EYE PROTECTION: GOGGLES OR FACE MASK.

SECTION 9 - PHYSICAL/CHEMICAL PROPERTIES

APPEARANCE: COLORLESS LIQUID

DENSITY AT 20 DEG. C: 1.0 G/CM3

ODOR: ODORLESS

FLASH POINT: NA

SOLUBILITY IN WATER: SOLUBLE

EXPLOSIVE PROPERTIES: NA

MELTING POINT: NA

EXPLOSION LIMITS: NA

BOILING POINT: >100 DEG. C

IGNITION TEMPERATURE: NA

pH VALUE AT 20 DEG. C: <2

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO BE AVOIDED: HEATING.

HAZARDOUS DECOMPOSITION PRODUCTS:
IN THE EVENT OF FIRE: SEE SECTION 5.

SUBSTANCES TO BE AVOIDED: METALS.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION 11 - TOXICOLOGICAL INFORMATION

PROPERTY THAT MUST BE ANTICIPATED ON THE BASIS FROM THE COMPONENTS OF THE PREPARATION:

AFTER SKIN CONTACT: SLIGHT IRRITATIONS.

AFTER EYE CONTACT: SLIGHT IRRITATIONS.

FURTHER DATA:
THE PRODUCT SHOULD BE HANDLED WITH THE CARE USUAL WHEN DEALING WITH CHEMICALS.

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXIC EFFECTS:
QUANTITATIVE DATA ON THE ECOLOGICAL EFFECT OF THIS PRODUCT ARE NOT AVAILABLE.

NO ECOLOGICAL PROBLEMS ARE TO BE EXPECTED WHEN THE PRODUCT IS HANDLED AND USED WITH DUE CARE AND ATTENTION.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: CAN BE SAFELY DISPOSED OF AS AN ORDINARY REFUSE.

SECTION 14 - TRANSPORT INFORMATION

LAND TRANSPORT:
ADR/RID: 9/UN 3316/PGIII
NAME: CHEMICAL KIT

SEA TRANSPORT:
IMDG: 9/UN 3316/PGIII
NAME: CHEMICAL KIT
MARINE POLLUTANT: NO

AIR TRANSPORT:
ICAO/IATA: 9/UN 3316/PGIII
NAME: CHEMICAL KIT

THESE TRANSPORT DATA APPLY TO THE ENTIRE PACK!

SECTION 15 - REGULATORY INFORMATION

LABELING ACCORDING TO EC DIRECTIVES:

SYMBOL:
R-PHRASES:
S-PHRASES:

CONTAINS:

SECTION 16 - OTHER INFORMATION

SUPERSEDES EDITION OF: JUNE 2002.

REASON FOR REVISION:
CHANGE IN LABELING DUE TO REEVALUATION OF CONSTITUENTS.

LEGEND:
NA: NOT APPLICABLE
ND: NOT DETERMINED

THE INFORMATION CONTAINED HEREIN IS BASED ON THE PRESENT STATE OF OUR KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO THE APPROPRIATE SAFETY PRECAUTIONS. IT DOES NOT REPRESENT A GUARANTEE OF THE PROPERTIES OF THE PRODUCT.

PKC0020

HANNA INSTRUMENTS

HI 3812 HARDNESS REAGENT 2

HEALTH & SAFETY DATA SHEETS

SECTION 1 - IDENTIFICATION OF PREPARATION

PRODUCT NAME: HARDNESS REAGENT 2

CODE NO.: HI 3812-0

APPLICATION: DETERMINATION OF HARDNESS IN WATER SAMPLES

MANUFACTURER IDENTIFICATION:
HANNA INSTRUMENTS
V.LE DELLE INDUSTRIE 12
RONCHI DI VILLAFRANCA
PADOVA
ITALY

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL CHARACTERIZATION: SOLUTION IN WATER

SECTION 3 - HAZARD IDENTIFICATION

NO HAZARD IF USED AS INSTRUCTED

SECTION 4 - FIRST AID MEASURES

EYE CONTACT:
WASH THOROUGHLY WITH PLENTY OF WATER. IF DISCOMFORT PERSISTS, OBTAIN MEDICAL ATTENTION

INGESTION:
WASH OUT MOUTH WITH PLENTY OF WATER
IN SEVERE CASES OBTAIN MEDICAL ATTENTION

INHALATION:
REMOVE FROM EXPOSURE, REST AND KEEP WARM.
IN SEVERE CASES OBTAIN MEDICAL ATTENTION

SKIN CONTACT:
WASH WITH PLENTY OF WATER. REMOVE CONTAMINATED CLOTHING AND WASH BEFORE RE-USE.

SECTION 5 - FIRE FIGHTING MEASURES

FIRE EXTINGUISHER: N/A

SPECIAL FIRE FIGHTING PRECAUTIONS: NONE

SECTION 6 - ACCIDENTAL RELEASE MEASURES

IN CASE OF ACCIDENTAL SPILL OR RELEASE:
WEAR APPROPRIATE PROTECTIVE CLOTHING
SWEEP UP AND WASH WITH PLENTY OF WATER

IF PERMITTED BY LOCAL REGULATIONS, RUN TO WASTE DILUTING GREATLY WITH RUNNING WATER; OTHERWISE TRANSFER TO CONTAINER AND ARRANGE REMOVAL BY DISPOSAL COMPANY

SECTION 7 - HANDLING AND STORAGE

HANDLING:
DO NOT EAT OR DRINK WHILE HANDLING THIS MATERIAL
WASH HANDS AND FACE AFTER WORKING WITH MATERIAL

STORAGE:
STORE AT ROOM TEMPERATURE (@ 15-25 DEG. C)
KEEP CONTAINER WELL CLOSED
PROTECT FROM DIRECT SUNLIGHT AND MOISTURE

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

AS APPROPRIATE TO QUANTITY HANDLED:

RESPIRATORY PROTECTION: SELF-CONTAINED BREATHING APPARATUS

PROTECTIVE GLOVES: PLASTIC OR RUBBER

EYE PROTECTION: GOGGLES OR FACE-SHIELD

SECTION 9 - PHYSICAL/CHEMICAL PROPERTIES

APPEARANCE AND ODOR:
DARK RED LIQUID
CHARACTERISTIC ODOR

WATER REACTIVITY: NON-REACTIVE

SOLUBILITY IN WATER: MISCIBLE IN ALL PROPORTIONS TO GIVE A NEUTRAL SOLUTION

MELTING POINT: NOT DETERMINED

BOILING POINT: NOT DETERMINED

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: STABLE

SUBSTANCES AND CONDITIONS TO BE AVOIDED: NONE

SECTION 11 - TOXICOLOGICAL INFORMATION

IRRITATION EFFECTS IN CASE OF INHALATION, EYE OR SKIN CONTACT AND INGESTION. MINIMAL HAZARD IF USED AS INSTRUCTED. MAY BE HARMFUL IF INGESTED IN VERY LARGE AMOUNTS

SECTION 12 - ECOLOGICAL INFORMATION

NO ENVIRONMENTAL HAZARD IS ANTICIPATED PROVIDED THAT MATERIAL IS HANDLED AND DISPOSED OF WITH DUE CARE AND ATTENTION

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:
IN COMPLIANCE WITH CURRENT REGULATIONS

CHEMICALS ARE GENERALLY CLASSIFIED AS SPECIAL WASTE AND THUS COVERED BY LOCAL REGULATIONS. CONTACT AUTHORITIES OR DISPOSAL COMPANIES FOR ADVICE.

WASH EMPTY CONTAINERS BEFORE RECYCLING

SECTION 14 - TRANSPORT INFORMATION

UN-NO.:
IMDG CLASS:

IMO:
PACKAGING GROUP:

IATA:
PACKAGING GROUP:

CORRECT TECHNICAL NAME: NOT RESTRICTED

ADR/RID: NR

SECTION 15 - REGULATORY INFORMATION

LABELING ACCORDING TO EEC DIRECTIVES:

SYMBOL:

R-PHRASES:

S-PHRASES:
S24/25: AVOID CONTACT WITH SKIN AND EYES

SECTION 16 - OTHER INFORMATION

EMERGENCY TELEPHONE NUMBER: 0039-049-9070211

LAST REV.: JUNE 2002

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

HSDS3812-2

HI 3812-0 EDTA SOLUTION

HEALTH & SAFETY DATA SHEET

ACCORDING TO EC DIRECTIVE 91/155/EC AND FOLLOWING AMENDMENTS

DATE OF ISSUE: 29 APRIL 2004.

SECTION 1 - IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

PRODUCT NAME: HI 3812-0 EDTA SOLUTION

APPLICATION: DETERMINATION OF HARDNESS IN WATER SAMPLES.

MANUFACTURER IDENTIFICATION:
HANNA INSTRUMENTS ITALIA S.R.L.
VIALE DELLE INDUSTRIE, 12/A
35010 VILLAFRANCA PADOVANA
ITALY

TEL.: +39-049-9070211

EMERGENCY TELEPHONE NO.: NO HAZARDOUS PRODUCT

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

AQUEOUS SOLUTION.

SECTION 3 - HAZARD IDENTIFICATION

NO HAZARDOUS PRODUCT AS SPECIFIED IN DIRECTIVE 67/548/EEC.

SECTION 4 - FIRST AID MEASURES

AFTER INHALATION: FRESH AIR.

AFTER SKIN CONTACT: WASH OFF WITH PLENTY OF WATER.

AFTER EYE CONTACT: RINSE OUT WITH WATER.

AFTER SWALLOWING:
WASH OUT MOUTH THOROUGHLY WITH WATER AND GIVE PLENTY OF WATER TO DRINK. IN SEVERE CASES OBTAIN MEDICAL ATTENTION.

SECTION 5 - FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:
WATER SPRAY, FOAM, DRY POWDER OR CARBON DIOXIDE.

SPECIAL RISKS: NA

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING:
DO NOT STAY IN DANGEROUS ZONE WITHOUT SUITABLE CHEMICAL PROTECTION CLOTHING AND SELF-CONTAINED BREATHING APPARATUS.

ADDITIONAL INFORMATION: NON-COMBUSTIBLE.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: DO NOT INHALE VAPORS. AVOID SUBSTANCE CONTACT.

ENVIRONMENTAL PRECAUTIONS: NONE.

SECTION 7 - HANDLING AND STORAGE

HANDLING: NO FURTHER REQUIREMENTS.

STORAGE:
TIGHTLY CLOSED. STORE AT ROOM TEMPERATURE (+15 TO +25 DEG. C RECOMMENDED).
PROTECT FROM LIGHT AND MOISTURE.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT: AS APPROPRIATE TO QUANTITY HANDLED.

PROTECTIVE GLOVES: RUBBER OR PLASTIC

RESPIRATORY PROTECTION:
REQUIRED WHEN VAPORS/AEROSOLS ARE GENERATED.
WORK UNDER HOOD.

EYE PROTECTION: GOGGLES OR FACE MASK

SECTION 9 - PHYSICAL/CHEMICAL PROPERTIES

APPEARANCE: LIQUID
pH VALUE AT 20 DEG. C: APPROX. 4.5
ODOR: ODORLESS
BOILING POINT: NA
SOLUBILITY IN WATER: SOLUBLE
IGNITION TEMPERATURE: NA
MELTING POINT: NA
FLASH POINT: NA
EXPLOSION LIMITS: NA
DENSITY AT 20 DEG. C: 1 G/CM3

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO BE AVOIDED: STRONG HEATING.
HAZARDOUS DECOMPOSITION PRODUCTS:
IN THE EVENT OF FIRE: SEE SECTION 5.
SUBSTANCES TO BE AVOIDED: THE GENERALLY KNOWN REACTION PARTNERS OF WATER.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION 11 - TOXICOLOGICAL INFORMATION

QUANTITATIVE DATA ON THE TOXICITY OF THIS PRODUCT ARE NOT AVAILABLE.
IN CASE OF INHALATION: SLIGHT IRRITATIONS.
IN CASE OF SKIN CONTACT: SLIGHT IRRITATIONS.
IN CASE OF EYE CONTACT: SLIGHT IRRITATIONS.
IN CASE OF INGESTION OF LARGE QUANTITIES:
DISTURBED ELECTROLYTE BALANCE, SEVERE IRRITATIONS IN ESOPHAGUS AND STOMACH,
BLOODY VOMITING.
AFTER ABSORPTION IN LARGE AMOUNTS:
DROP IN BLOOD PRESSURE, PARALYSIS SYMPTOMS, AGITATION.
FURTHER DATA:
FURTHER HAZARDOUS PROPERTIES CANNOT BE EXCLUDED. THE PRODUCT SHOULD BE
HANDLED WITH THE CARE USUAL WHEN DEALING WITH CHEMICALS.

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXIC EFFECT:
QUANTITATIVE DATA ON THE ECOLOGICAL EFFECT OF THIS PRODUCT ARE NOT
AVAILABLE.
FURTHER ECOLOGICAL DATA:
NO ECOLOGICAL PROBLEMS ARE TO BE EXPECTED WHEN THE PRODUCT IS HANDLED AND
USED WITH DUE CARE AND ATTENTION.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: CAN BE SAFELY DISPOSED OFF AS AN ORDINARY REFUSE.

SECTION 14 - TRANSPORT INFORMATION

NOT SUBJECT TO TRANSPORT REGULATIONS.

SECTION 15 - REGULATORY INFORMATION

LABELING ACCORDING TO EC DIRECTIVES:
SYMBOL:
R-PHRASES:
S-PHRASES:
24/25: AVOID CONTACT WITH SKIN AND EYES.
CONTAINS:

SECTION 16 - OTHER INFORMATION

SUPERSEDES EDITION OF: JUNE 2002
REASON FOR REVISION: GENERAL UPDATE
LEGEND:
NA: NOT APPLICABLE
ND: NOT DETERMINED

THE INFORMATION CONTAINED HEREIN IS BASED ON THE PRESENT STATE OF OUR
KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO THE APPROPRIATE
SAFETY PRECAUTIONS. IT DOES NOT REPRESENT A GUARANTEE OF THE PROPERTIES OF
THE PRODUCT.

PKC 0048
HANNA INSTRUMENTS
HI 3818-0 SOLUTION
HEALTH & SAFETY DATA SHEET
ACCORDING TO EC DIRECTIVE 91/155/EC AND FOLLOWING AMENDMENTS
DATE OF ISSUE: 14 JUNE 2004.

SECTION 1 - IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

PRODUCT NAME: HI 3818-0 SOLUTION.
APPLICATION: DETERMINATION OF CARBON DIOXIDE IN WATER SAMPLES.
MANUFACTURER IDENTIFICATION:
HANNA INSTRUMENTS ITALIA S.R.L.
VIALE DELLE INDUSTRIE, 12/A
35010 VILLAFRANCA PADOVANA
ITALY
TEL. NO.: +39-049-9070211
EMERGENCY TELEPHONE NO.: NO HAZARDOUS PRODUCT

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

AQUEOUS SOLUTION.

SECTION 3 - HAZARD IDENTIFICATION

NO HAZARDOUS PRODUCT AS SPECIFIED IN DIRECTIVE 67/548/EEC.

SECTION 4 - FIRST AID MEASURES

AFTER INHALATION:
IF INHALED REMOVE TO FRESH AIR. IF BREATHING BECOMES DIFFICULT, CALL A
PHYSICIAN.
AFTER SKIN CONTACT: WASH OFF WITH WATER AND SOAP.
AFTER EYE CONTACT:
RINSE OUT WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF PAIN PERSISTS,
SUMMON MEDICAL ADVICE.
AFTER SWALLOWING:
WASH OUT MOUTH WITH PLENTY OF WATER, PROVIDED PERSON IS CONSCIOUS. OBTAIN
MEDICAL ATTENTION IF FEELING UNWELL.

SECTION 5 - FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:
WATER SPRAY, FOAM, DRY POWDER OR CARBON DIOXIDE.
SPECIAL RISKS:
NON COMBUSTIBLE. DEVELOPMENT OF HAZARDOUS COMBUSTION GASES OR VAPORS
POSSIBLE IN THE EVENT OF FIRE.
THE FOLLOWING MAY DEVELOP IN EVENT OF FIRE: SODIUM OXIDES.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING:
DO NOT STAY IN DANGEROUS ZONE WITHOUT SUITABLE CHEMICAL PROTECTION CLOTHING
AND SELF-CONTAINED BREATHING APPARATUS.
ADDITIONAL INFORMATION: CONTAIN ESCAPING VAPORS WITH WATER.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: NONE
ENVIRONMENTAL PRECAUTIONS: NONE

SECTION 7 - HANDLING AND STORAGE

HANDLING: NO RESTRICTIONS
STORAGE:
KEEP CONTAINER CLOSED AND PROTECTED FROM DIRECT SUNLIGHT.
STORE AT ROOM TEMPERATURE (+15 DEG. C TO +25 DEG. C).

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT: AS APPROPRIATE TO QUANTITY HANDLED.
RESPIRATORY PROTECTION: REQUIRED WHEN VAPORS/AEROSOLS ARE GENERATED.
PROTECTIVE GLOVES: RUBBER OR PLASTIC.
EYE PROTECTION: GOGGLES OR FACE MASK.

SECTION 9 - PHYSICAL/CHEMICAL PROPERTIES

APPEARANCE: COLORLESS
BOILING POINT: 100 DEG. C
ODOR: ODORLESS
pH VALUE AT 20 DEG. C: >12
SOLUBILITY IN WATER: SOLUBLE
DENSITY AT 20 DEG. C: 1 G/CM3
MELTING POINT: NA
FLASH POINT: NA

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO BE AVOIDED:
STRONG HEATING (ABOVE BOILING POINT).
STABLE IN THE RECOMMENDED STORAGE CONDITIONS.
SUBSTANCES TO BE AVOIDED:
THE GENERALLY KNOWN REACTION PARTNERS OF WATER.
HAZARDOUS DECOMPOSITION PRODUCTS:
IN THE EVENT OF FIRE: SEE SECTION 5.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
QUANTITATIVE DATA ON THE TOXICITY OF THIS PRODUCT ARE NOT AVAILABLE.

FURTHER TOXICOLOGICAL INFORMATION:
PROPERTY WHICH CANNOT BE EXCLUDED ON THE BASIS OF THE CHEMICAL/PHYSICAL DATA:

AFTER SKIN CONTACT: SLIGHT IRRITATIONS.

AFTER EYE CONTACT: SLIGHT IRRITATIONS.

FURTHER DATA:
HAZARDOUS PROPERTIES CANNOT BE EXCLUDED, BUT ARE RELATIVELY IMPROBABLE DUE TO THE LOW CONCENTRATION OF THE DISSOLVED SUBSTANCE. THE PRODUCT SHOULD BE HANDLED WITH THE CARE USUAL WHEN DEALING WITH CHEMICALS.

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXIC EFFECTS:
QUANTITATIVE DATA ON THE ECOLOGICAL EFFECT OF THIS PRODUCT ARE NOT AVAILABLE.

FURTHER ECOLOGICAL DATA:
NO ECOLOGICAL PROBLEMS ARE TO BE EXPECTED WHEN THE PRODUCT IS HANDLED AND USED WITH DUE CARE AND ATTENTION.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: CAN BE SAFELY DISPOSED OFF AS AN ORDINARY REFUSE.

SECTION 14 - TRANSPORT INFORMATION

LAND TRANSPORT:
ADR/RID: 9/UN 3316/PGII
NAME: CHEMICAL KIT

SEA TRANSPORT:
IMDG: 9/UN 3316/PGII
NAME: CHEMICAL KIT
MARINE POLLUTANT: NO

AIR TRANSPORT:
ICAO/IATA: 9/UN 3316/PGII
NAME: CHEMICAL KIT

THESE TRANSPORT DATA APPLY TO THE ENTIRE PACK!

SECTION 15 - REGULATORY INFORMATION

LABELING ACCORDING TO EC DIRECTIVES:

SYMBOL:
R-PHRASES:
S-PHRASES:

CONTAINS:

SECTION 16 - OTHER INFORMATION

SUPERSEDES EDITION OF: JUNE 2002

REASON FOR REVISION: CHANGE IN LABELING AFTER REEVALUATION OF CONSTITUENTS.

LEGEND:
NA: NOT APPLICABLE
ND: NOT DETERMINED

THE INFORMATION CONTAINED HEREIN IS BASED ON THE PRESENT STATE OF OUR KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO THE APPROPRIATE SAFETY PRECAUTIONS. IT DOES NOT REPRESENT A GUARANTEE OF THE PROPERTIES OF THE PRODUCT.

PKC0025

HANNA INSTRUMENTS

HI 3820-0 SOLUTION

HEALTH & SAFETY DATA SHEET

ACCORDING TO EC DIRECTIVE 91/155/EC AND FOLLOWING AMENDMENTS

DATE OF ISSUE: 14 JUNE 2004.

SECTION 1 - IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

PRODUCT NAME: HI 3820-0 SOLUTION.

APPLICATION: DETERMINATION OF ACIDITY IN WATER SAMPLES.

MANUFACTURER IDENTIFICATION:
HANNA INSTRUMENTS ITALIA S.R.L.
VIALE DELLE INDUSTRIE, 12/A
35010 VILLAFRANCA PADOVANA
ITALY

TEL. NO.: +39-049-9070211

EMERGENCY TELEPHONE NO.: NO HAZARDOUS PRODUCT

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

AQUEOUS SOLUTION.

SECTION 3 - HAZARD IDENTIFICATION

NO HAZARDOUS PRODUCT AS SPECIFIED IN DIRECTIVE 67/548/EEC.

SECTION 4 - FIRST AID MEASURES

AFTER INHALATION:
IF INHALED REMOVE TO FRESH AIR. IF BREATHING BECOMES DIFFICULT, CALL A PHYSICIAN.

AFTER SKIN CONTACT: WASH OFF WITH WATER AND SOAP.

AFTER EYE CONTACT:
RINSE OUT WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF PAIN PERSISTS, SUMMON MEDICAL ADVICE.

AFTER SWALLOWING:
WASH OUT MOUTH WITH PLENTY OF WATER, PROVIDED PERSON IS CONSCIOUS. OBTAIN MEDICAL ATTENTION IF FEELING UNWELL.

SECTION 5 - FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:
WATER SPRAY, FOAM, DRY POWDER OR CARBON DIOXIDE.

SPECIAL RISKS:
NON COMBUSTIBLE. DEVELOPMENT OF HAZARDOUS COMBUSTION GASES OR VAPORS POSSIBLE IN THE EVENT OF FIRE.

THE FOLLOWING MAY DEVELOP IN EVENT OF FIRE: SODIUM OXIDES.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING:
DO NOT STAY IN DANGEROUS ZONE WITHOUT SUITABLE CHEMICAL PROTECTION CLOTHING AND SELF-CONTAINED BREATHING APPARATUS.

ADDITIONAL INFORMATION: CONTAIN ESCAPING VAPORS WITH WATER.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: NONE

ENVIRONMENTAL PRECAUTIONS: NONE

SECTION 7 - HANDLING AND STORAGE

HANDLING: NO RESTRICTIONS

STORAGE:
KEEP CONTAINER CLOSED AND PROTECTED FROM DIRECT SUNLIGHT.
STORE AT ROOM TEMPERATURE (+15 DEG. C TO +25 DEG. C).

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT: AS APPROPRIATE TO QUANTITY HANDLED.

RESPIRATORY PROTECTION: REQUIRED WHEN VAPORS/AEROSOLS ARE GENERATED.

PROTECTIVE GLOVES: RUBBER OR PLASTIC.

EYE PROTECTION: GOGGLES OR FACE MASK.

SECTION 9 - PHYSICAL/CHEMICAL PROPERTIES

APPEARANCE: COLORLESS

BOILING POINT: 100 DEG. C

ODOR: ODORLESS

pH VALUE AT 20 DEG. C: >12

SOLUBILITY IN WATER: SOLUBLE

DENSITY AT 20 DEG. C: 1 G/CM3

MELTING POINT: NA

FLASH POINT: NA

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO BE AVOIDED:
STRONG HEATING (ABOVE BOILING POINT).
STABLE IN THE RECOMMENDED STORAGE CONDITIONS.

SUBSTANCES TO BE AVOIDED: THE GENERALLY KNOWN REACTION PARTNERS OF WATER.

HAZARDOUS DECOMPOSITION PRODUCTS:
IN THE EVENT OF FIRE: SEE SECTION 5.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
QUANTITATIVE DATA ON THE TOXICITY OF THIS PRODUCT ARE NOT AVAILABLE.

FURTHER TOXICOLOGICAL INFORMATION:
PROPERTY WHICH CANNOT BE EXCLUDED ON THE BASIS OF THE CHEMICAL/PHYSICAL DATA:

AFTER SKIN CONTACT: SLIGHT IRRITATIONS.

AFTER EYE CONTACT: SLIGHT IRRITATIONS.

FURTHER DATA:
HAZARDOUS PROPERTIES CANNOT BE EXCLUDED, BUT ARE RELATIVELY IMPROBABLE DUE TO THE LOW CONCENTRATION OF THE DISSOLVED SUBSTANCE. THE PRODUCT SHOULD BE HANDLED WITH THE CARE USUAL WHEN DEALING WITH CHEMICALS.

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXIC EFFECTS:
QUANTITATIVE DATA ON THE ECOLOGICAL EFFECT OF THIS PRODUCT ARE NOT AVAILABLE.

FURTHER ECOLOGICAL DATA:
NO ECOLOGICAL PROBLEMS ARE TO BE EXPECTED WHEN THE PRODUCT IS HANDLED AND USED WITH DUE CARE AND ATTENTION.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: CAN BE SAFELY DISPOSED OFF AS AN ORDINARY REFUSE.

SECTION 14 - TRANSPORT INFORMATION

LAND TRANSPORT:
ADR/RID: 9/UN 3316/PGII
NAME: CHEMICAL KIT

SEA TRANSPORT:
IMDG: 9/UN 3316/PGII
NAME: CHEMICAL KIT
MARINE POLLUTANT: NO

AIR TRANSPORT:
ICAO/IATA: 9/UN 3316/PGII
NAME: CHEMICAL KIT

THESE TRANSPORT DATA APPLY TO THE ENTIRE PACK!

SECTION 15 - REGULATORY INFORMATION

LABELING ACCORDING TO EC DIRECTIVES:

SYMBOL:
R-PHRASES:
S-PHRASES:

CONTAINS:

SECTION 16 - OTHER INFORMATION

SUPERSEDES EDITION OF: JUNE 2002

REASON FOR REVISION: CHANGE IN LABELING AFTER REEVALUATION OF CONSTITUENTS.

LEGEND:
NA: NOT APPLICABLE
ND: NOT DETERMINED

THE INFORMATION CONTAINED HEREIN IS BASED ON THE PRESENT STATE OF OUR KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO THE APPROPRIATE SAFETY PRECAUTIONS. IT DOES NOT REPRESENT A GUARANTEE OF THE PROPERTIES OF THE PRODUCT.

PKC 0014

HANNA INSTRUMENTS

HI 3833-0 PHOSPHATE REAGENT

HEALTH & SAFETY DATA SHEET

ACCORDING TO EC DIRECTIVE 91/155/EC

DATE OF ISSUE: 22 SEPTEMBER 2003.

SECTION 1 - IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

PRODUCT NAME: HI 3833-0 PHOSPHATE REAGENT

APPLICATION: DETERMINATION OF PHOSPHATE IN WATER SAMPLES.

MANUFACTURER IDENTIFICATION:
HANNA INSTRUMENTS ITALIA S.R.L.
VIALE DELLE INDUSTRIE, 12/A
35010 VILLAFRANCA PADOVANA
ITALY

TEL. NO.: +39-049-9070211

EMERGENCY TELEPHONE NO.:
+39-02-66101029
CENTRO ANTIVELENI
OSPEDALE NIGUARDA (MI) - ITALY

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE OF CRYSTALLINE POWDERS.

SECTION 3 - HAZARD IDENTIFICATION

NO HAZARDOUS PRODUCT AS SPECIFIED IN DIRECTIVE 67/548/EEC.

SECTION 4 - FIRST AID MEASURES

REMOVE CONTAMINATED, SOAKED CLOTHING IMMEDIATELY AND DISPOSE OF SAFELY.

AFTER INHALATION: FRESH AIR.

AFTER SKIN CONTACT: WASH OFF WITH WATER. REMOVE CONTAMINATED CLOTHING.

AFTER EYE CONTACT:
RINSE OUT WITH PLENTY OF WATER. IF PAIN PERSISTS, SUMMON MEDICAL ADVICE.

AFTER SWALLOWING:
DRINK PLENTY OF WATER, INDUCE VOMITING. OBTAIN MEDICAL ATTENTION IF FEELING UNWELL.

SECTION 5 - FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:
IN ADAPTATION TO MATERIALS STORED IN THE IMMEDIATE NEIGHBORHOOD.

SPECIAL RISKS: NON-COMBUSTIBLE.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING:
DO NOT STAY IN DANGEROUS ZONE WITHOUT SUITABLE CHEMICAL PROTECTION CLOTHING AND SELF-CONTAINED BREATHING APPARATUS.

ADDITIONAL INFORMATION:
PREVENT FIRE-FIGHTING WATER FROM ENTERING SURFACE WATER OR GROUNDWATER.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: AVOID GENERATION OF DUSTS. DO NOT INHALE DUSTS.

ENVIRONMENTAL PRECAUTIONS:
DO NOT DISCHARGE INTO THE DRAINS/SURFACE WATERS/GROUNDWATER'S.

ADDITIONAL NOTES:
TAKE UP DRY. CLEAN UP AFFECTED AREA AND DISPOSE ACCORDING TO LOCAL REGULATION.

SECTION 7 - HANDLING AND STORAGE

HANDLING:
NO FURTHER REQUIREMENTS.
ACCESSIBLE ONLY FOR AUTHORIZED PERSONS.

STORAGE:
STORE AT ROOM TEMPERATURE (+15 TO +25 DEG. C RECOMMENDED).
TIGHTLY CLOSED. PROTECT FROM LIGHT AND MOISTURE.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT: AS APPROPRIATE TO QUANTITY HANDLED.

PROTECTIVE GLOVES: RUBBER OR PLASTIC.

RESPIRATORY PROTECTION: REQUIRED WHEN DUSTS ARE GENERATED.

EYE PROTECTION: GOGGLES OR FACE MASK.

SECTION 9 - PHYSICAL/CHEMICAL PROPERTIES

APPEARANCE AND ODOR: WHITE POWDER, ODORLESS

SOLUBILITY IN WATER: SOLUBLE

MELTING POINT: ND

BOILING POINT: NA

IGNITION TEMPERATURE: NA

FLASH POINT: NA

EXPLOSION LIMITS: NA

DENSITY AT 20 DEG. C: ND

pH AT 20 DEG. C: APPROX. 1.5 AT 20 G/L IN WATER

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO BE AVOIDED: ND

HAZARDOUS DECOMPOSITION PRODUCTS:
IN THE EVENT OF FIRE: SEE SECTION 5.

SUBSTANCES TO BE AVOIDED: ND

FURTHER INFORMATION: STABLE IN THE RECOMMENDED STORAGE CONDITIONS.

SECTION 11 - TOXICOLOGICAL INFORMATION

QUANTITATIVE DATA ON THE TOXICITY OF THIS PRODUCT ARE NOT AVAILABLE.

IN CASE OF SKIN CONTACT: POSSIBILITY OF SLIGHT IRRITATIONS.

IN CASE OF EYE CONTACT: POSSIBILITY OF SLIGHT IRRITATIONS.

IN CASE OF INGESTION:
POSSIBLE SYMPTOMS:
NAUSEA, VOMITING, GASTROINTESTINAL AND MOUTH PAIN, DIARRHEA.

FURTHER DATA:
NO TOXIC EFFECTS ARE TO BE EXPECTED WHEN THE PRODUCT IS HANDLED WITH THE CARE USUAL WHEN DEALING WITH CHEMICALS.

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXIC EFFECT:
QUANTITATIVE DATA ON THE ECOLOGICAL EFFECT OF THIS PRODUCT ARE NOT AVAILABLE.

FURTHER ECOLOGICAL DATA:
NO ECOLOGICAL PROBLEMS ARE TO BE EXPECTED WHEN THE PRODUCT IS HANDLED AND USED WITH DUE CARE AND ATTENTION.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:
CHEMICAL RESIDUES ARE GENERALLY CLASSIFIED AS SPECIAL WASTE AND THUS COVERED BY LOCAL REGULATIONS. CONTACT LOCAL AUTHORITIES OR DISPOSAL COMPANIES FOR ADVICE.

HANDLE CONTAMINATED PACKAGING IN THE SAME WAY AS THE SUBSTANCE ITSELF.

SECTION 14 - TRANSPORT INFORMATION

NOT SUBJECT TO TRANSPORT REGULATIONS.

SECTION 15 - REGULATORY INFORMATION

LABELING ACCORDING TO EC DIRECTIVES:

SYMBOL:

R-PHRASES:

S-PHRASES:
22-24/25: DO NOT BREATHE DUST. AVOID CONTACT WITH SKIN AND EYES.

CONTAINS:

SECTION 16 - OTHER INFORMATION

SUPERSEDES EDITION OF: JUNE 2002

REASON FOR REVISION: GENERAL UPDATE

LEGEND:

NA: NOT APPLICABLE
ND: NOT DETERMINED

THE INFORMATION CONTAINED HEREIN IS BASED ON THE PRESENT STATE OF OUR KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO THE APPROPRIATE SAFETY PRECAUTIONS. IT DOES NOT REPRESENT A GUARANTEE OF THE PROPERTIES OF THE PRODUCT.

ETICRS01

HANNA INSTRUMENTS

HI 3874-0 NITRATE REAGENT

HEALTH & SAFETY DATA SHEET

ACCORDING TO EC DIRECTIVE 91/155/EC AND FOLLOWING AMENDMENTS

DATE OF ISSUE: 12 JULY 2004.

SECTION 1 - IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

PRODUCT NAME: HI 3874-0 NITRATE REAGENT

APPLICATION: DETERMINATION OF NITRATE IN WATER SAMPLES.

MANUFACTURER IDENTIFICATION:
HANNA INSTRUMENTS ITALIA S.R.L.
VIALE DELLE INDUSTRIE, 12/A
35010 VILLAFRANCA PADOVANA
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TEL.: +39-049-9070211

EMERGENCY TELEPHONE NO.:

+39-02-66101029
CENTRO ANTIVELENI
OSPEDALE NIGUARDA (MI) - ITALY

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS:

| NAME (EC DIRECTIVES) | EC-INDEX-NO. | CAS NO. | LABELING (EC DIRECTIVES) | CONTENT |
|-------------------------|--------------|-----------|-----------------------------|--------------|
| SULFANILIC ACID | 612-014-00-X | 121-57-3 | Xi R 36/38-43 | >=1% - <10% |
| CADMIUM POWDER | NA | 7440-43-9 | T R 45-26/27/28 | >=1% - <10% |
| COPPER SULPHATE | 029-004-00-0 | 7758-99-8 | Xn R22-36/38-50/53 | >=0.1% - <1% |

(FULL TEXT OF R PHRASES IN SECTION 16)

SECTION 3 - HAZARD IDENTIFICATION

MAY CAUSE SENSITIZATION BY SKIN CONTACT. MAY CAUSE CANCER. ALSO TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED. HARMFUL TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT. RESTRICTED TO PROFESSIONAL USERS. ATTENTION - AVOID EXPOSURE - OBTAIN SPECIAL INSTRUCTION BEFORE USE.

SECTION 4 - FIRST AID MEASURES

REMOVE CONTAMINATED, SOAKED CLOTHING IMMEDIATELY AND DISPOSE OF SAFELY.

AFTER INHALATION:
REMOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, GIVE OXYGEN. IF PAIN PERSISTS, SUMMON MEDICAL ADVICE.

AFTER SKIN CONTACT:
WASH OFF WITH PLENTY OF WATER. REMOVE CONTAMINATED CLOTHING.

AFTER EYE CONTACT:
RINSE OUT WITH PLENTY OF WATER. IF PAIN PERSISTS, SUMMON MEDICAL ADVICE.

AFTER SWALLOWING:
WASH OUT MOUTH THOROUGHLY WITH WATER, IF PERSON IS CONSCIOUS. IMMEDIATELY OBTAIN MEDICAL ATTENTION.

SECTION 5 - FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: CARBON DIOXIDE, DRY CHEMICAL POWDER.

SPECIAL RISKS:
DEVELOPMENT OF HAZARDOUS COMBUSTION GASES OR VAPORS POSSIBLE IN THE EVENT OF FIRE.

THE FOLLOWING MAY DEVELOP IN EVENT OF FIRE: SULFUR OXIDES, NITROGEN OXIDES.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING:
DO NOT STAY IN DANGEROUS ZONE WITHOUT SUITABLE CHEMICAL PROTECTION CLOTHING AND SELF-CONTAINED BREATHING APPARATUS.

ADDITIONAL INFORMATION:
CONTAIN ESCAPING VAPORS WITH WATER.
PREVENT FIRE-FIGHTING WATER FROM ENTERING SURFACE WATER OR GROUNDWATER.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:
AVOID SUBSTANCE CONTACT. AVOID INHALATION OF DUSTS IN ALL CIRCUMSTANCES.

ENVIRONMENTAL-PROTECTION MEASURES: DO NOT ALLOW TO ENTER SEWERAGE SYSTEM.

PROCEDURES FOR CLEANING / ABSORPTION:
TAKE UP DRY. FORWARD FOR DISPOSAL. CLEAN UP AFFECTED AREA. AVOID GENERATION OF DUSTS.

SECTION 7 - HANDLING AND STORAGE

HANDLING:
AVOID GENERATION OF DUSTS.
DO NOT INHALE SUBSTANCE.
ACCESSIBLE ONLY FOR AUTHORIZED PERSONS.

STORAGE:
STORE AT ROOM TEMPERATURE (+15 TO +25 DEG. C).
TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE.
PROTECT FROM MOISTURE.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

SPECIFIC CONTROL PARAMETER: EC

NAME: SULFANILIC ACID

SENSITIZATION: DANGER OF SENSITIZATION OF THE SKIN

PERSONAL PROTECTIVE EQUIPMENT:
PROTECTIVE CLOTHING SHOULD BE SELECTED SPECIFICALLY FOR THE WORKING PLACE, DEPENDING ON CONCENTRATION AND QUANTITY OF THE HAZARDOUS SUBSTANCES HANDLED.

RESPIRATORY PROTECTION: REQUIRED WHEN DUSTS ARE GENERATED. WORK UNDER HOOD.

PROTECTIVE GLOVES: RUBBER OR PLASTIC

EYE PROTECTION: GOGGLES OR FACE MASK

INDUSTRIAL HYGIENE:
CHANGE CONTAMINATED CLOTHING. APPLICATION OF SKIN- PROTECTIVE BARRIER CREAM RECOMMENDED. WASH HANDS AFTER WORKING WITH SUBSTANCE. AVOID GENERATION OF DUSTS. UNDER NO CIRCUMSTANCES EAT OR DRINK AT WORKPLACE.

SECTION 9 - PHYSICAL/CHEMICAL PROPERTIES

APPEARANCE AND ODOR: GREY POWDER, ODORLESS.

DENSITY AT 20 DEG. C: ND

SOLUBILITY IN WATER: PARTIALLY SOLUBLE

IGNITION TEMPERATURE: NA

MELTING POINT: ND

FLASH POINT: NA

BOILING POINT: NA

EXPLOSION LIMITS: NA

pH AT 20 DEG. C: 3.1 AT 6 G/L

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO BE AVOIDED: STRONG HEATING.

HAZARDOUS DECOMPOSITION PRODUCTS:
TOXIC GASES OR VAPORS IN THE EVENT OF FIRE.

SUBSTANCES TO BE AVOIDED: OXIDIZING AGENTS, ACIDS.

SECTION 11 - TOXICOLOGICAL INFORMATION

QUANTITATIVE DATA ON THE TOXICITY OF THIS PRODUCT ARE NOT AVAILABLE.

APPLICABLE TO MAIN COMPONENT(S):

TOXICOLOGICAL DATA:

SULFANILIC ACID:
ACUTE TOXICITY:
LD50 (ORAL, RAT): 12300 MG/KG.

CADMIUM POWDER:
ACUTE TOXICITY:
LD50 (ORAL, RAT): 2330 MG/KG.

PROPERTY OF THIS PRODUCT MUST BE ANTICIPATED ON THE BASIS FROM THE COMPONENTS OF THE PREPARATION:

IN CASE OF INHALATION: IRRITATION SYMPTOMS IN THE RESPIRATORY TRACT.

IN CASE OF SKIN CONTACT: SLIGHT IRRITATIONS. MAY CAUSE SENSITIZATION.

IN CASE OF EYE CONTACT: SLIGHT IRRITATIONS.

IN CASE OF INGESTION: NAUSEA, VOMITING, DIARRHEA.

SYSTEMIC EFFECTS:
AFTER ABSORPTION OF LARGE QUANTITIES:
TIREDNESS, AGITATION, SPASMS, ATAXIA, DROP IN TEMPERATURE.

FURTHER DATA:
FURTHER HAZARDOUS PROPERTIES CANNOT BE EXCLUDED. THE PRODUCT SHOULD BE

HANDLED WITH PARTICULAR CARE.

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXIC EFFECT:
QUANTITATIVE DATA ON THE ECOLOGICAL EFFECT OF THIS PRODUCT ARE NOT AVAILABLE.

BIOLOGICAL EFFECTS:

APPLICABLE TO PARTIAL COMPONENT(S):

THE FOLLOWING APPLIES TO CADMIUM COMPOUNDS IN GENERAL:

DEGRADABILITY: BIODEGRADABILITY 0

BIOLOGICAL EFFECTS:

FISH:

L. MACROCHIRUS 96 H. LDLO:

1.94 MG/L

C. AURATUS 8.5 H. TOXIC AS FROM 0.0165 MG/L

BACTERIA: E. COLI TOXIC AS FROM 0.15 MG/L

ARTHROPODS:

DAPHNIA TOXIC AS FROM 0.1 MG/L

DAPHNIA MAGNA TOXIC AS FROM 0.0026 MG/L

PROTOZOA:

TOXIC AS FROM 0.2 MG/L

ALGAE: SC. QUADRICAUDA TOXIC AS FROM 0.1 MG/L

HAZARD FOR DRINKING WATER.

FURTHER ECOLOGICAL DATA:

APPLICABLE TO PARTIAL COMPONENT(S):

MAY CONTRIBUTE TO THE EUTROPHICATION OF DRINKING-WATER SUPPLIES.

DO NOT ALLOW TO ENTER WATERS, WASTE WATERS, OR SOIL!

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

CHEMICAL RESIDUES ARE GENERALLY CLASSIFIED AS SPECIAL WASTE AND THUS COVERED BY LOCAL REGULATIONS. CONTACT LOCAL AUTHORITIES OR DISPOSAL COMPANIES FOR ADVICE.

HANDLE CONTAMINATED PACKAGING IN THE SAME WAY AS THE SUBSTANCE ITSELF.

SECTION 14 - TRANSPORT INFORMATION

LAND TRANSPORT:

ADR/RID: 9, II

UN-NO.: 3316

NAME: CHEMICAL KIT

SEA TRANSPORT:

IMDG: 9/UN 3316/Pg II

NAME: CHEMICAL KIT

AIR TRANSPORT:

ICAO/IATA: 9/UN 3316/Pg II

NAME: CHEMICAL KIT

THESE TRANSPORT DATA APPLY TO THE ENTIRE PACK!

SECTION 15 - REGULATORY INFORMATION

LABELING ACCORDING TO EC DIRECTIVES:

SYMBOL:

T: TOXIC

R-PHRASES:

43-45-23/24/25-52/53:

MAY CAUSE SENSITIZATION BY SKIN CONTACT. MAY CAUSE CANCER.

ALSO TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED. HARMFUL TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.

S-PHRASES:

36/37-45-53:

WEAR SUITABLE PROTECTIVE CLOTHING AND GLOVES. IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW LABEL WHERE POSSIBLE). AVOID EXPOSURE - OBTAIN SPECIAL INSTRUCTION BEFORE USE.

CONTAINS: SULFANILIC ACID, CADMIUM POWDER.

SECTION 16 - OTHER INFORMATION

TEXT OF ANY R PHRASES REFERRED TO UNDER HEADING 2:

22: HARMFUL IF SWALLOWED.

26/27/28: VERY TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.

36/38: IRRITATING TO EYES AND SKIN.

43: MAY CAUSE SENSITIZATION BY SKIN CONTACT.

45: MAY CAUSE CANCER.

50/53:

VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.

SUPERSEDES EDITION OF: SEPTEMBER 2003.

REASON FOR REVISION: GENERAL UPDATE.

LEGEND:

NA: NOT APPLICABLE

ND: NOT DETERMINED

THE INFORMATION CONTAINED HEREIN IS BASED ON THE PRESENT STATE OF OUR KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO THE APPROPRIATE SAFETY PRECAUTIONS. IT DOES NOT REPRESENT A GUARANTEE OF THE PROPERTIES OF THE PRODUCT.

ETICRS09