

THE WORLD'S FOREMOST MANUFACTURER OF RESEARCH
BIOCHEMICALS AND DIAGNOSTIC REAGENTS

ATTN: SAFETY DIRECTOR
UNIV OF WISC-WHITEWATER
PURCHASING OFFICE
800 W MAIN ST
WHITEWATER WI 53190-1705

EMERGENCY PHONE 1-314-771-5765

DATE: 09/08/93
CUST#: 2-097-94816
PO#: UND-41251

M A T E R I A L S A F E T Y D A T A S H E E T P A G E 1

SECTION 1. ----- CHEMICAL IDENTIFICATION-----

PRODUCT #: T2629 NAME: TUNGSTIC ACID SODIUM DIHYDRATE

SECTION 2. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

CAS #: 10213-10-2
MF: NA2O4W1

SYNONYMS
SODIUM TUNGSTATE, DIHYDRATE *



SECTION 3. ----- HAZARDS IDENTIFICATION -----

LABEL PRECAUTIONARY STATEMENTS

TOXIC (USA DEFINITION)
HARMFUL (EUROPEAN DEFINITION)
HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
IRRITATING TO EYES.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. ----- FIRST-AID MEASURES-----

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF
WATER FOR AT LEAST 15 MINUTES.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS
AMOUNTS OF WATER.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. ----- FIRE FIGHTING MEASURES -----

EXTINGUISHING MEDIA

NONCOMBUSTIBLE.
USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUNDING FIRE CONDITIONS.

SPECIAL FIREFIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

CONTINUED ON NEXT PAGE

BRANCH OFFICES AT:

SIGMA CHEMIE GmbH
Grünwalder Weg 30
D-8024 Deisenhofen
Deutschland.

SIGMA QUIMICA
Apt. Correos 161
28100 Alcobendas (Madrid)
España.

SIGMA-ALDRICH, s.r.o.
Krizikova 27
180 00 Praha 8
Czechoslovakia

SIGMA CHEMIE
K. Cardijnplein, 8
B-2880 Bornem
België/Belgique.

SIGMA CHEMIE
P.O. Box 260
CH-9470 Buchs
Switzerland.

SIGMA CHEMICAL CO. LTD.
Fancy Road, Poole,
Dorset BH17 7NH
England.

SIGMA CHIMIE
1, rue D'Abau Chesnes
B.P. 701
38297 St Quentin Fallavier

SIGMA CHIMICA
Div. della Sigma-Aldrich S.r.l.
Via Gallarate 154
20151 Milano
Italy.

Sigma-Aldrich Pty., Limited
Unit 2, 10 Anella Ave.
Castle Hill NSW 2154
Australia.

SIGMA-ALDRICH CHEMICAL
REPRESENTAÇÕES LTDA.
Rua Sabará, 566 - Conj. 53
01239-010 São Paulo, SP
Brazil.

THE WORLD'S FOREMOST MANUFACTURER OF RESEARCH
BIOCHEMICALS AND DIAGNOSTIC REAGENTS

M A T E R I A L S A F E T Y D A T A S H E E T

CUST#: 2-097-94816
PO#: UND-41251

PRODUCT #: T2629
MF: NA204W1

NAME: TUNGSTIC ACID SODIUM DIHYDRATE

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES -----

WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. ----- HANDLING AND STORAGE -----

REFER TO SECTION 8.

SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION -----

CHEMICAL SAFETY GOGGLES.
RUBBER GLOVES.
NIOSH/MSHA-APPROVED RESPIRATOR IN NONVENTILATED AREAS AND/OR FOR EXPOSURE ABOVE THE ACGIH TLV.
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
AVOID BREATHING DUST.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
TOXIC.
EYE IRRITANT.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

APPEARANCE AND ODOR
WHITE CRYSTALS
SPECIFIC GRAVITY: 4.180

SECTION 10. ----- STABILITY AND REACTIVITY -----

CONTINUED ON NEXT PAGE

BRANCH OFFICES AT:

SIGMA CHEMIE GmbH
Grünwalder Weg 30
D-8024 Deisenhofen
Deutschland.

SIGMA QUIMICA
Apt. Correos 161
28100 Alcobendas (Madrid)
España.

SIGMA-ALDRICH, s.r.o.
Krizikova 27
180 00 Praha 8
Czechoslovakia

SIGMA CHEMIE
K. Cardijnplein, 8
B-2880 Bornem
Belgie/Belgique.

SIGMA CHEMIE
P.O. Box 260
CH-9470 Buchs
Switzerland.

SIGMA CHEMICAL CO. LTD.
Fancy Road, Poole,
Dorset BH17 7NH
England.

SIGMA CHIMIE
L'Isle - D'Abau Chesnes
B.P. 701
38297 St Quentin Fallavier

SIGMA CHIMICA
Div. della Sigma-Aldrich S.r.l.
Via Gallarate 154
20151 Milano

Sigma-Aldrich Pty., Limited
Unit 2, 10 Anella Ave.
Castle Hill NSW 2154
Australia.

SIGMA-ALDRICH CHEMICAL REPRESENTAÇÕES LTDA.
Rua Sabará, 566 - Conj. 53
01239-010 São Paulo, SP

THE WORLD'S FOREMOST MANUFACTURER OF RESEARCH
BIOCHEMICALS AND DIAGNOSTIC REAGENTS

MATERIAL SAFETY DATA SHEET PAGE 3


PRODUCT #: T2629
MF: NA204W1

NAME: TUNGSTIC ACID SODIUM DIHYDRATE

CUST#: 2-097-94816
PO#: UND-41251

INCOMPATIBILITIES
STRONG OXIDIZING AGENTS
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
NATURE OF DECOMPOSITION PRODUCTS NOT KNOWN.

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

ACUTE EFFECTS
HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.
CAUSES EYE IRRITATION.
MAY CAUSE SKIN IRRITATION. 
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

ADDITIONAL INFORMATION
GUINEA PIGS TREATED ORALLY OR INTRAVENOUSLY WITH SODIUM TUNGSTATE
DIHYDRATE SUFFERED FROM ANOREXIA, COLIC, INCOORDINATION OF MOVEMENT,
TREMBLING AND DYSPNEA. ANIMALS SUFFERED A WEIGHT LOSS BEFORE A
DELAYED DEATH.

RTECS NO: Y07900000
TUNGSTIC ACID, SODIUM SALT, DIHYDRATE

TOXICITY DATA
IPR-RAT LD50:204 MG/KG AIPTAK 154,243,65
IPR-MUS LD50:145 MG/KG AIPTAK 154,243,65

TARGET ORGAN DATA
BEHAVIORAL (SOMNOLENCE)
BEHAVIORAL (COMA)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
COMPLETE INFORMATION.

SECTION 12. ----- ECOLOGICAL INFORMATION -----
DATA NOT YET AVAILABLE.

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

CAUTIOUSLY DISSOLVE THE MATERIAL IN WATER. NEUTRALIZE IMMEDIATELY WITH
SODIUM CARBONATE, OR FIRST ADD A LITTLE HYDROCHLORIC ACID FOLLOWED BY
SODIUM CARBONATE IF THE MATERIAL DOES NOT DISSOLVE COMPLETELY.
ADD CALCIUM CHLORIDE IN EXCESS OF THE AMOUNT NEEDED TO PRECIPITATE
THE FLUORIDE AND/OR CARBONATE. SEPARATE THE INSOLUBLES AND BURY IN A

CONTINUED ON NEXT PAGE

BRANCH OFFICES AT:

SIGMA CHEMIE GmbH
Grünwalder Weg 30
D-8024 Deisenhofen
Deutschland.

SIGMA QUIMICA
Apt. Correos 161
28100 Alcobendas (Madrid)
España.

SIGMA-ALDRICH, s.r.o.
Krizikova 27
180 00 Praha 8
Czechoslovakia

SIGMA CHEMIE
K. Cardijnplein, 8
B-2880 Bornem
Belgie/Belgique.

SIGMA CHEMIE
P.O. Box 260
CH-9470 Buchs
Switzerland.

SIGMA CHEMICAL CO. LTD.
Fancy Road, Poole,
Dorset BH17 7NH
England.

SIGMA CHIMIA
L'Isle - D'Abreu Chesnes
B.P.701
38297 St Quentin Fallavier
Cedex France

SIGMA CHIMICA
Div. della Sigma-Aldrich S.r.l.
Via Gallarate 154
20151 Milano
Italia

Sigma-Aldrich Pty., Limited
Unit 2, 10 Anella Ave.
Castle Hill NSW 2154
Australia.

SIGMA-ALDRICH CHEMICAL
REPRESENTAÇÕES LTDA.
Rua Sabará, 566 - Corj. 53
01239-010 São Paulo, SP
Brazil

THE WORLD'S FOREMOST MANUFACTURER OF RESEARCH
 BIOCHEMICALS AND DIAGNOSTIC REAGENTS

M A T E R I A L S A F E T Y D A T A S H E E T

CUST#: 2-097-94816
 PO#: UND-41251

PRODUCT #: T2629
 MF: NA2D4H1

NAME: TUNGSTIC ACID SODIUM DIHYDRATE

LANDFILL SITE APPROVED FOR HAZARDOUS-WASTE DISPOSAL.
 OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. ----- TRANSPORT INFORMATION -----

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. ----- REGULATORY INFORMATION -----

TLV AND SOURCE

FOR TUNGSTEN, SOLUBLE COMPOUNDS AS TUNGSTEN: 

ACGIH TLV-TWA: 1 MG/M3; STEL: 3 MG/M3.

OSHA PEL: TWA 8H 1 MG/M3; STEL: 3 MG/M3.

REVIEWS, STANDARDS, AND REGULATIONS

ACGIH TLV-TWA 5 MG(W)/M3; STEL 10 MG(W)/M3 85INA8 5,614,86

MSHA STANDARD-AIR: TWA 5 MG(W)/M3

DTLVS* 3, 272, 71

OEL-AUSTRALIA: TWA 5 MG(W)/M3; STEL 10 MG(W)/M3 JANUARY 1993

OEL-BELGIUM: TWA 5 MG(W)/M3; STEL 10 MG(W)/M3 JANUARY 1993

OEL-DENMARK: TWA 5 MG(W)/M3 JANUARY 1993

OEL-FINLAND: TWA 5 MG(W)/M3 JANUARY 1993

OEL-THE NETHERLANDS: TWA 5 MG(W)/M3 JANUARY 1993

OEL-THE PHILIPPINES: TWA 1 MG(W)/M3 JANUARY 1993

OEL-SWEDEN: TWA 5 MG(W)/M3 JANUARY 1993

OEL-SWITZERLAND: TWA 5 MG(W)/M3 JANUARY 1993

OEL-UNITED KINGDOM: TWA 5 MG(W)/M3; STEL 10 MG(W)/M3 JANUARY 1993

OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA, NEW ZEALAND, SINGAPORE,

VIETNAM CHECK ACGIH TLV

NIOSH REL TO TUNGSTEN, SOLUBLE-AIR: 10H TWA 1 MG(W)/M3; STEL 3 MG/M3

NIOSH* DHHS #92-100,92

NOES 1983: HZD X2632; MS 2; TNE 186; NOS 4; TNE 2254; TFE 1653

SECTION 16. ----- OTHER INFORMATION -----

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO
 BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA SHALL NOT BE
 HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH
 THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR
 ADDITIONAL TERMS AND CONDITIONS OF SALE.

CONTINUED ON NEXT PAGE

BRANCH OFFICES AT:

SIGMA CHEMIE GmbH
 Grünwalder Weg 30
 D-8024 Deisenhofen
 Deutschland.

SIGMA QUIMICA
 Apt. Correos 161
 28100 Alcobendas (Madrid)
 España.

SIGMA-ALDRICH, s.r.o.
 Krizikova 27
 180 00 Praha 8
 Czechoslovakia

SIGMA CHEMIE
 K. Cardijnplein, 8
 B-2880 Bornem
 België/Belgique.

SIGMA CHEMIE
 P.O. Box 260
 CH-9470 Buchs
 Switzerland.

SIGMA CHEMICAL CO. LTD.
 Fancy Road, Poole,
 Dorset BH17 7NH
 England.

SIGMA CHIME
 L'Isle - D'Abeau Chesnes
 B.P. 701
 38297 St Quentin Fallavier
 Cedex

SIGMA CHIMICA
 Div. della Sigma-Aldrich S.r.l.
 Via Gallarate 154
 20151 Milano
 Italia

Sigma-Aldrich Pty., Limited
 Unit 2, 10 Anella Ave.
 Castle Hill NSW 2154
 Australia.

**SIGMA-ALDRICH CHEMICAL
 REPRESENTAÇÕES LTDA.**
 Rua Sabará, 566 - Conj. 53
 01239-010 São Paulo, SP

M A T E R I A L S A F E T Y D A T A S H E E T

PAGE 5

CUST#: 2-097-94816
PO#: UND-41251

PRODUCT #: T2629
MF: NA204W1

NAME: TUNGSTIC ACID SODIUM DIHYDRATE

COPYRIGHT 1993 SIGMA CHEMICAL CO.
LICENSE GRANTED TO MAKE UNLIMITED COPIES FOR INTERNAL USE ONLY



BRANCH OFFICES AT:

SIGMA CHEMIE GmbH
Grünwalder Weg 30
D-8024 Deisenhofen
Deutschland.

SIGMA QUIMICA
Apt. Correos 161
28100 Alcobendas (Madrid)
España.

SIGMA-ALDRICH, s.r.o.
Krizikova 27
180 00 Praha 8
Czechoslovakia

SIGMA CHEMIE
K. Cardijnplein, 8
B-2880 Bornem
België/Belgique.

SIGMA CHEMIE
P.O. Box 260
CH-9470 Buchs
Switzerland.

SIGMA CHEMICAL CO. LTD.
Fancy Road, Poole,
Dorset BH17 7NH
England. 1 1 2 4 7

SIGMA CHIMIE
L'Isle - D'Abeau Chesnes
8.P.701
38297 St Quentin Fallavier
Cedex, France

SIGMA CHIMICA
Div. della Sigma-Aldrich S.r.l.
Via Gallarate 154
20151 Milano
Italia

Sigma-Aldrich Pty., Limited
Unit 2, 10 Anella Ave.
Castle Hill NSW 2154
Australia.

**SIGMA-ALDRICH CHEMICAL
REPRESENTAÇÕES LTDA.**
Rua Sabará, 566 - Conj. 53
01239-010 São Paulo, SP
Brasil