

Sigma Chemical Co.	Aldrich Chemical Co., Inc.	Fluka Chemical Corp.
P.O. Box 14508	1001 West St. Paul	1001 West St. Paul
St. Louis, MO 63178	Milwaukee, WI 53233	Milwaukee, WI 53233
Phone: 314-771-5765	Phone: 414-273-3850	Phone: 414-273-3850

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

CATALOG #: 323527
NAME: SELENIUM TETRACHLORIDE

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

CAS #: 10026-03-6
MF: CL4SE
EC NO: 233-053-5

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

LABEL PRECAUTIONARY STATEMENTS

HIGHLY TOXIC (USA)
TOXIC (EU)
TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
CAUSES BURNS.
TARGET ORGAN(S):
NERVES
LIVER
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
DO NOT BREATHE DUST.
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
PROTECTION.
MOISTURE SENSITIVE
KEEP TIGHTLY CLOSED.

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

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS
AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED
CLOTHING AND SHOES.
ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS
WITH FINGERS.
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 IMMEDIATELY.
DISCARD CONTAMINATED CLOTHING AND SHOES.

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

EXTINGUISHING MEDIA

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

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

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

EVACUATE AREA.
WEAR SELF-CONTAINED BREATHING APPARATUS, 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- - - - -

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.

SAFETY SHOWER AND EYE BATH.

USE ONLY IN A CHEMICAL FUME HOOD.

FACESHIELD (8-INCH MINIMUM).

DO NOT BREATHE DUST.

DO NOT GET IN EYES, ON SKIN, ON CLOTHING.

AVOID PROLONGED OR REPEATED EXPOSURE.

WASH THOROUGHLY AFTER HANDLING.

CORROSIVE.

HIGHLY TOXIC.

KEEP TIGHTLY CLOSED.

MOISTURE SENSITIVE

STORE IN A COOL DRY PLACE.

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

APPEARANCE AND ODOR

PALE GREEN POWDER

PHYSICAL PROPERTIES

FLASHPOINT NONE

SPECIFIC GRAVITY: 2.600

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

INCOMPATIBILITIES

STRONG OXIDIZING AGENTS

STRONG ACIDS

MAY DECOMPOSE ON EXPOSURE TO MOIST AIR OR WATER.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

HYDROGEN CHLORIDE GAS

SELENIUM/SELENIUM OXIDES

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

ACUTE EFFECTS

MAY BE FATAL IF INHALED, SWALLOWED, OR ABSORBED THROUGH SKIN.

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.

ACUTE SELENIUM POISONING PRODUCES CENTRAL NERVOUS SYSTEM EFFECTS, WHICH INCLUDE NERVOUSNESS, CONVULSIONS AND DROWSINESS. OTHER SIGNS OF INTOXICATION CAN INCLUDE SKIN ERUPTIONS, LASSITUDE, GASTROINTESTINAL DISTRESS, TEETH THAT ARE DISCOLORED OR DECAYED, ODOROUS ("GARLIC") BREATH, PARTIAL LOSS OF HAIR AND NAILS. CHRONIC EXPOSURE BY INHALATION CAN PRODUCE SYMPTOMS THAT INCLUDE PALLOR, COATING OF THE TONGUE, ANEMIA, IRRITATION OF THE MUCOSA, LUMBAR PAIN, LIVER AND SPLEEN DAMAGE AS WELL AS ANY OF THE OTHER PREVIOUSLY MENTIONED SYMPTOMS.

CHRONIC EFFECTS

ANEMIA

DERMATITIS

TARGET ORGAN(S):

CENTRAL NERVOUS SYSTEM

LIVER

SPLEEN
G.I. SYSTEM
TEETH

RTECS #: VS7875000

SELENIUM(IV) CHLORIDE (1:4)

TOXICITY DATA

SCU-GPG LD50:19 MG/KG

CTOXAO 17,171,1980

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 - - - - -
THE MATERIAL SHOULD BE DISSOLVED IN 1) WATER; 2) ACID SOLUTION OR 3)
OXIDIZED TO A WATER-SOLUBLE STATE. PRECIPITATE THE MATERIAL AS THE
SULFIDE, ADJUSTING THE PH OF THE SOLUTION TO 7 TO COMPLETE PRE-
CIPITATION. FILTER THE INSOLUBLES AND DISPOSE OF THEM IN A HAZARDOUS-
WASTE SITE. DESTROY ANY EXCESS SULFIDE WITH SODIUM HYPOCHLORITE.
NEUTRALIZE THE SOLUTION BEFORE FLUSHING DOWN THE DRAIN.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - TRANSPORT INFORMATION - - - - -
CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

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

TOXIC

R 23/24/25

TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.

R 34

CAUSES BURNS.

S 45

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

S 26

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.

S 22

DO NOT BREATHE DUST.

S 36/37/39

WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
PROTECTION.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

ACGIH TLV-TWA 0.2 MG(SE)/M3

DTLVS* TLV/BEI,1996

MSHA STANDARD-AIR:TWA 0.2 MG(SE)/M3

DTLVS* 3,224,1971

OSHA PEL (GEN INDU):8H TWA 0.2 MG(SE)/M3

CFRGBR 29,1910.1000,1994

OSHA PEL (CONSTRUC):8H TWA 0.2 MG(SE)/M3

CFRGBR 29,1926.55,1994

OSHA PEL (SHIPYARD):8H TWA 0.2 MG(SE)/M3

CFRGBR 29,1915.1000,1993

OSHA PEL (FED CONT):8H TWA 0.2 MG(SE)/M3

CFRGBR 41,50-204.50,1994

OEL-ARAB REPUBLIC OF EGYPT:TWA 0.2 MG(SE)/M3 JAN 1993

OEL-AUSTRALIA:TWA 0.2 MG(SE)/M3 JAN 1993

OEL-BELGIUM:TWA 0.2 MG(SE)/M3 JAN 1993

OEL-DENMARK:TWA 0.1 MG(SE)/M3 JAN 1993

OEL-FINLAND:TWA 0.1 MG(SE)/M3;STEL 0.3 MG(SE)/M3 JAN 1993
OEL-GERMANY:TWA 0.1 MG(SE)/M3 JAN 1993
OEL-HUNGARY:STEL 0.1 MG(SE)/M3 JAN 1993
OEL-THE NETHERLANDS:TWA 0.2 MG(SE)/M3 JAN 1993
OEL-THE PHILIPPINES:TWA 0.2 MG(SE)/M3 JAN 1993
OEL-POLAND:TWA 0.1 MG(SE)/M3 JAN 1993
OEL-SWEDEN:TWA 0.1 MG(SE)/M3 JAN 1993
OEL-SWITZERLAND:TWA 0.1 MG(SE)/M3 JAN 1993
OEL-TURKEY:TWA 0.2 MG(SE)/M3 JAN 1993
OEL-UNITED KINGDOM:TWA 0.1 MG(SE)/M3 JAN 1993
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

U.S. INFORMATION

THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

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, ALDRICH,
FLUKA 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.

COPYRIGHT 1997 SIGMA CHEMICAL CO., ALDRICH CHEMICAL CO., INC.,
FLUKA CHEMIE AG

LICENSE GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY

□