

SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #:	130861
NAME:	2,4-Dinitrofluorobenzene
SYNONYMS:	1-Fluoro-2,4-dinitrobenzene Sanger's reagent 1,3-Dinitro-4-fluorobenzene
24 HOUR EMERGENCY TELEPHONE:	Within USA/Canada: +1 800-633-8253
TELEI HOIVE.	Outside USA/Canada: +1 801-629-0667
TO REQUEST AN MSDS:	+1 888-535-2444
CUSTOMER SERVICE:	+1 888-535-2444

SECTION 2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS) ACUTE TOXICITY, ORAL (CATEGORY 4), H302 SKIN IRRITATION (CATEGORY 2), H315 EYE IRRITATION (CATEGORY 2A), H319 SKIN SENSITISATION (CATEGORY 1), H317 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (CATEGORY 3), RESPIRATORY SYSTEM, H335 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (CATEGORY 2), H373

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS PICTOGRAM



SIGNAL WORD

WARNING

HAZARD STATEMENT(S)H302HARMFUL IF SWALLOWED.H315CAUSES SKIN IRRITATION.H317MAY CAUSE AN ALLERGIC SKIN REACTION.

H319	CAUSES SERIOUS EYE IRRITATION.
H315 H335	MAY CAUSE RESPIRATORY IRRITATION.
H373	MAY CAUSE DAMAGE TO ORGANS THROUGH PROLONGED OR
11373	REPEATED EXPOSURE.
PRECAUTIONARY STAT	
P260	DO NOT BREATHE DUST/ FUME/ GAS/ MIST/ VAPOURS/ SPRAY.
P264	WASH SKIN THOROUGHLY AFTER HANDLING.
P270	DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT.
P271	USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA.
P272	CONTAMINATED WORK CLOTHING SHOULD NOT BE
1 2 / 2	ALLOWED OUT OF THE WORKPLACE.
P280	WEAR PROTECTIVE GLOVES/ EYE PROTECTION/ FACE
1200	PROTECTION.
P301 + P312	IF SWALLOWED: CALL A POISON CENTER OR DOCTOR/
1001 1012	PHYSICIAN IF YOU FEEL UNWELL.
P302 + P352	IF ON SKIN: WASH WITH PLENTY OF SOAP AND WATER.
P304 + P340	IF INHALED: REMOVE VICTIM TO FRESH AIR AND KEEP AT
	REST IN A POSITION COMFORTABLE FOR BREATHING.
P305 + P351 + P338	IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL
	MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY
	TO DO. CONTINUE RINSING.
P314	GET MEDICAL ADVICE/ ATTENTION IF YOU FEEL UNWELL.
P321	SPECIFIC TREATMENT (SEE SUPPLEMENTAL FIRST AID
	INSTRUCTIONS ON THIS LABEL).
P330	RINSE MOUTH.
P333 + P313	IF SKIN IRRITATION OR RASH OCCURS: GET MEDICAL
	ADVICE/ ATTENTION.
P337 + P313	IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/
	ATTENTION.
P362	TAKE OFF CONTAMINATED CLOTHING AND WASH BEFORE
	REUSE.
P403 + P233	STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER
	TIGHTLY CLOSED.
P405	STORE LOCKED UP.
P501	DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED
	WASTE DISPOSAL PLANT.
HAZARDS NOT	NONE
OTHERWISE	
CLASSIFIED (HNOC)	
OR NOT COVERED	
BY GHS	

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF:	C ₆ H ₃ FN ₂ O ₄
MW:	186.1
CAS-NO.	70-34-8
PURITY:	\geq 99% (HPLC)

HAZARDOUS COMPONENTS COMPONENT CLASSIFICATION CONCENTRATION

2,4-Dinitrofluorobenzene		
	ACUTE TOX. 4; SKIN IRRIT. 2;	-
	EYE IRRIT. 2A; SKIN SENS. 1;	
	STOT SE 3; STOT RE 2; H302,	
	H315, H317, H319, H335, H373	
FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE		

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

SECTION 4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

GENERAL ADVICE	CONSULT A PHYSICIAN. SHOW THIS SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE.MOVE OUT OF DANGEROUS AREA.
IF INHALED	IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT A PHYSICIAN.
IN CASE OF SKIN CONTACT	WASH OFF WITH SOAP AND PLENTY OF WATER. CONSULT A PHYSICIAN.
IN CASE OF EYE CONTACT	RINSE THOROUGHLY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND CONSULT A PHYSICIAN.
IF SWALLOWED	NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CONSULT A PHYSICIAN.
MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED	THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE SECTION 2.2) AND/OR IN SECTION 11
INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT	NO DATA AVAILABLE

SECTION 5. FIRE AND EXPLOSION DATA

EXTINGUISHING MEDIA

NEEDED

SUITABLE	USE WATER SPRAY, ALCOHOL-RESISTANT FOAM, DRY
EXTINGUISHING MEDIA	CHEMICAL OR CARBON DIOXIDE.
SPECIAL HAZARDS	CARBON OXIDES NITROGEN OXIDES (NOX) HYDROGEN

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE CARBON OXIDES, NITROGEN OXIDES (NOX), HYDROGEN FLUORIDE

ADVICE FOR FIREFIGHTERS

FURTHER INFORMATION NO DATA AVAILABLE

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES	USE PERSONAL PROTECTIVE EQUIPMENT. AVOID DUST FORMATION. AVOID BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. EVACUATE PERSONNEL TO SAFE AREAS. AVOID BREATHING DUST. FOR PERSONAL PROTECTION SEE SECTION 8.
ENVIRONMENTAL PRECAUTIONS	PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS.
METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP	PICK UP AND ARRANGE DISPOSAL WITHOUT CREATING DUST. SWEEP UP AND SHOVEL. KEEP IN SUITABLE, CLOSED CONTAINERS FOR DISPOSAL.
REFERENCE TO OTHER SECTIONS	FOR DISPOSAL SEE SECTION 13.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING	AVOID CONTACT WITH SKIN AND EYES. AVOID FORMATION OF DUST AND AEROSOLS. PROVIDE APPROPRIATE EXHAUST VENTILATION AT PLACES WHERE DUST IS FORMED. FOR PRECAUTIONS SEE SECTION 2.2.
CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES	KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE. STORE UNDER INERT GAS. MOISTURE SENSITIVE.
SPECIFIC END USE(S)	APART FROM THE USES MENTIONED IN SECTION 1.2 NO OTHER SPECIFIC USES ARE STIPULATED

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

COMPONENTS WITH	CONTAINS NO SUBSTANCES WITH OCCUPATIONAL
WORKPLACE CONTROL	EXPOSURE LIMIT VALUES.
PARAMETERS	

APPROPRIATE	HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL
ENGINEERING	HYGIENE AND SAFETY PRACTICE. WASH HANDS BEFORE
CONTROLS	BREAKS AND AT THE END OF WORKDAY.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION	FACE SHIELD AND SAFETY GLASSES USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER
	APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).

SKIN PROTECTIONHANDLE WITH GLOVES. GLOVES MUST BE INSPECTED
PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE
(WITHOUT TOUCHING GLOVE''S OUTER SURFACE) TO
AVOID SKIN CONTACT WITH THIS PRODUCT. DISPOSE OF
CONTAMINATED GLOVES AFTER USE IN ACCORDANCE
WITH APPLICABLE LAWS AND GOOD LABORATORY
PRACTICES. WASH AND DRY HANDS.

FULL CONTACT MATERIAL: FLUORINATED RUBBER MINIMUM LAYER THICKNESS: 0.7 MM BREAK THROUGH TIME: 480 MIN MATERIAL TESTED:VITOJECT (KCL 890, SIZE M)

SPLASH CONTACT MATERIAL: NITRILE RUBBER MINIMUM LAYER THICKNESS: 0.4 MM BREAK THROUGH TIME: 30 MIN MATERIAL TESTED:CAMATRIL (KCL 730, SIZE M)

IF USED IN SOLUTION, OR MIXED WITH OTHER SUBSTANCES, AND UNDER CONDITIONS WHICH DIFFER FROM EN 374, CONTACT THE SUPPLIER OF THE CE APPROVED GLOVES. THIS RECOMMENDATION IS ADVISORY ONLY AND MUST BE EVALUATED BY AN INDUSTRIAL HYGIENIST AND SAFETY OFFICER FAMILIAR WITH THE SPECIFIC SITUATION OF ANTICIPATED USE BY OUR CUSTOMERS. IT SHOULD NOT BE CONSTRUED AS OFFERING AN APPROVAL FOR ANY SPECIFIC USE SCENARIO.

BODY PROTECTION COMPLETE SUIT PROTECTING AGAINST CHEMICALS, THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.

RESPIRATORYFOR NUISANCE EXPOSURES USE TYPE P95 (US) OR TYPE P1**PROTECTION**(EU EN 143) PARTICLE RESPIRATOR.FOR HIGHER LEVELPROTECTION USE TYPE OV/AG/P99 (US) OR TYPE ABEK-P2(EU EN 143) RESPIRATOR CARTRIDGES. USE RESPIRATORSAND COMPONENTS TESTED AND APPROVED UNDERAPPROPRIATE GOVERNMENT STANDARDS SUCH ASNIOSH (US) OR CEN (EU).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Light yellow liquid
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING	23-32 °C
POINT/FREEZING POINT	
INITIAL BOILING POINT	178 °C/25mmHg
AND BOILING RANGE	-
FLASH POINT	>110°C
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID,	NO DATA AVAILABLE
GAS)	
UPPER/LOWER	NO DATA AVAILABLE
FLAMMABILITY OR	
EXPLOSIVE LIMITS	
VAPOUR PRESSURE	NO DATA AVAILABLE
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	1.482
WATER SOLUBILITY	NO DATA AVAILABLE
PARTITION COEFFICIENT:	NO DATA AVAILABLE
N- OCTANOL/WATER	
AUTO-IGNITION	NO DATA AVAILABLE
TEMPERATURE	
DECOMPOSITION	NO DATA AVAILABLE
TEMPERATURE	
VISCOSITY	NO DATA AVAILABLE
EXPLOSIVE PROPERTIES	NO DATA AVAILABLE
OXIDIZING PROPERTIES	NO DATA AVAILABLE
OTHER SAFETY	NO DATA AVAILABLE
INFORMATION	

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY NO DATA AVAILABLE

CHEMICAL STABILITY STABLE UNDER RECOMMENDED STORAGE CONDITIONS.

POSSIBILITY OF HAZARDOUS REACTIONS NO DATA AVAILABLE

CONDITIONS TO AVOID NO DATA AVAILABLE

HAZARDOUS DECOMPOSITION PRODUCTS OTHER DECOMPOSITION PRODUCTS - NO DATA AVAILABLE IN THE EVENT OF FIRE: SEE SECTION 5

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY	NO DATA AVAILABLE DERMAL: NO DATA AVAILABLE
SKIN CORROSION/IRRITATION	NO DATA AVAILABLE
SERIOUS EYE DAMAGE/EYE IRRITATION	NO DATA AVAILABLE
RESPIRATORY OR SKIN SENSITISATION	NO DATA AVAILABLE
GERM CELL MUTAGENICITY	HAMSTER KIDNEY MORPHOLOGICAL TRANSFORMATION.
	AMES TEST S. TYPHIMURIUM
CARCINOGENICITY	
IARC:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC.
ACGIH:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY ACGIH.
NTP:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP.
OSHA:	NOWN OR ANTICIPATED CARCINOGEN BY NTP. NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY OSHA.
REPRODUCTIVE TOXICITY	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN	INHALATION - MAY CAUSE RESPIRATORY IRRITATION.

TOXICITY - SINGLE EXPOSURE

SPECIFIC TARGET ORGAN	MAY CAUSE DAMAGE TO ORGANS THROUGH
TOXICITY - REPEATED	PROLONGED OR REPEATED EXPOSURE.
EXPOSURE	

NO DATA AVAILABLE

ADDITIONAL INFORMATION

RTECS: NOT AVAILABLE

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY	NO DATA AVAILABLE
PERSISTENCE AND DEGRADABILITY	
BIOACCUMULATIVE POTENTIAL	NO DATA AVAILABLE
MOBILITY IN SOIL	NO DATA AVAILABLE
RESULTS OF PBT AND VPVB ASSESSMENT	PBT/VPVB ASSESSMENT NOT AVAILABLE AS CHEMICAL SAFETY ASSESSMENT NOT REQUIRED/NOT CONDUCTED

OTHER ADVERSE EFFECTS

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

PRODUCTOFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO
A LICENSED DISPOSAL COMPANY. CONTACT A
LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE
TO DISPOSE OF THIS MATERIAL.**CONTAMINATED**DISPOSE OF AS UNUSED PRODUCT.

CONTAMINATED PACKAGING DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)	
PROPER SHIPPING NAME:	TOXIC SOLIDS, ORGANIC, N.O.S. 2,4-Dinitrofluorobenzene
UN NUMBER:	2811
CLASS:	6.1
PACKING GROUP:	II

REPORTABLE QUANTITY (RQ): MARINE POLLUTANT:	NO
IMDG PROPER SHIPPING NAME: UN NUMBER: CLASS: PACKING GROUP: EMS-NO: MARINE POLLUTANT:	TOXIC SOLIDS, ORGANIC, N.O.S. 2,4-Dinitrofluorobenzene 2811 6.1 II F-A, S-A NO
IATA PROPER SHIPPING NAME: UN NUMBER: CLASS: PACKING GROUP:	TOXIC SOLIDS, ORGANIC, N.O.S. 2,4-Dinitrofluorobenzene 2811 6.1 II

SECTION 15. REGULATORY INFORMATION

SARA 302 COMPONENTS	SARA 302: NO CHEMICALS SUBJECT TO THE REPORTIN TITLE III, SECTION 302.	IN THIS MATERIAL ARE NG REQUIREMENTS OF SARA
SARA 313 COMPONENTS	THAT EXCEED THE THRES	WITH KNOWN CAS NUMBERS
SARA 311/312 HAZARDS	ACUTE HEALTH HAZARD	
MASSACHUSETTS RIGHT TO KNOW COMPONENTS	NO COMPONENTS ARE SUE MASSACHUSETTS RIGHT T	
PENNSYLVANIA RIGHT TO KNOW COMPONENTS CAS-NO.REVISION DATE2.4-Dinitrofluorobenzene70-34-8		
2,4-Dinitrofluorobenzene 70-34-8 NEW JERSEY RIGHT TO KNOW COMPONENTS CAS-NO. REVISION DATE		
2,4-Dinitrofluorobenzene	70-34-8	

CALIFORNIA PROP. 65	THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS
COMPONENTS	KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER,
	BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.

SECTION 16. OTHER INFORMATION

FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.		
ACUTE TOX.	ACUTE TOXICITY	
EYE IRRIT.	EYE IRRITATION	
H302	HARMFUL IF SWALLOWED.	

H315	CAUSES SKIN IRRITATION.
H317	MAY CAUSE AN ALLERGIC SKIN REACTION.
H319	CAUSES SERIOUS EYE IRRITATION.
H335	MAY CAUSE RESPIRATORY IRRITATION.
H373	MAY CAUSE DAMAGE TO ORGANS THROUGH
	PROLONGED OR REPEATED EXPOSURE.
SKIN IRRIT.	SKIN IRRITATION
SKIN SENS.	SKIN SENSITISATION

HMIS RATING

HEALTH HAZARD:	2
CHRONIC HEALTH	1
HAZARD: FLAMMABILITY:	
PHYSICAL HAZARD	0

NFPA RATING

HEALTH HAZARD:	2
FIRE HAZARD:	1
REACTIVITY HAZARD:	0

MSDS LEGEND	
MW:	MOLECULAR WEIGHT
MF:	MOLECULAR FORMULA
VOC:	VOLATILE ORGANIC COMPOUNDS
ACGIH:	AMERICAN CONFERENCE OF GOVERNMENENTAL INDUSTRIAL
	HYGINISTS
CAS:	CHEMICAL ABSTRACTS SERIVE REGISTRY NUMBER
OSHA:	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PEL:	PERMISSIBLE EXPOSURE LIMIT (OSHA)
TLV:	THRESHOLD LIMIT VALUE (ACGIH)

IMPORTANT:

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