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S A F E T Y D A T A S H E E T

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #:	26778
NAME:	Ferrocene
SYNONYMS:	Bis(cyclopentadienyl)iron
24 HOUR EMERGENCY TELEPHONE:	(800) 535-5053(USA) 352-323-3500 (INTERNATIONAL)
TO REQUEST AN MSDS:	(800) 869-9290
CUSTOMER SERVICE:	(630) 766-2112

SECTION 2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)

FLAMMABLE SOLIDS (CATEGORY 1), H228

ACUTE TOXICITY, ORAL (CATEGORY 4), H302

ACUTE TOXICITY, INHALATION (CATEGORY 4), H332

REPRODUCTIVE TOXICITY (CATEGORY 1B), H360

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE, INHALATION
(CATEGORY 2), LIVER, H373

SHORT-TERM (ACUTE) AQUATIC HAZARD (CATEGORY 2), H401

LONG-TERM (CHRONIC) AQUATIC HAZARD (CATEGORY 1), H410

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

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS
PICTOGRAM**



SIGNAL WORD DANGER

HAZARD STATEMENT(S)

H228	FLAMMABLE SOLID.
H302 + H332	HARMFUL IF SWALLOWED OR IF INHALED.
H360	MAY DAMAGE FERTILITY OR THE UNBORN CHILD.
H373	MAY CAUSE DAMAGE TO ORGANS (LIVER) THROUGH PROLONGED OR REPEATED EXPOSURE IF INHALED.
H401	TOXIC TO AQUATIC LIFE.
H410	VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

PRECAUTIONARY STATEMENT(S)

P201	OBTAIN SPECIAL INSTRUCTIONS BEFORE USE.
P202	DO NOT HANDLE UNTIL ALL SAFETY PRECAUTIONS HAVE BEEN READ AND UNDERSTOOD.
P210	KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES. NO SMOKING.
P240	GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT.
P241	USE EXPLOSION-PROOF ELECTRICAL/ VENTILATING/ LIGHTING EQUIPMENT.
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.
P273	AVOID RELEASE TO THE ENVIRONMENT.
P280	WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECTION.
P301 + P312 + P330	IF SWALLOWED: CALL A POISON CENTER/DOCTOR IF YOU FEEL UNWELL. RINSE MOUTH.
P304 + P340 + P312	IF INHALED: REMOVE PERSON TO FRESH AIR AND KEEP COMFORTABLE FOR BREATHING. CALL A POISON CENTER/DOCTOR IF YOU FEEL UNWELL.
P308 + P313	IF EXPOSED OR CONCERNED: GET MEDICAL ADVICE/ ATTENTION.
P370 + P378	IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR ALCOHOL-RESISTANT FOAM TO EXTINGUISH.
P391	COLLECT SPILLAGE.
P405	STORE LOCKED UP.
P501	DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT.

HAZARDS NOT OTHERWISE NONE

**CLASSIFIED
(HNOC) OR NOT
COVERED BY GHS**

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: $C_{10}H_{10}Fe$

MW: 186.03

CAS-NO. 102-54-5

PURITY: $\geq 99\%$ (Assay)

HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
FERROCENE	FLAM. SOL. 1; ACUTE TOX. 4; REPR. 1B; STOT RE 2; AQUATIC ACUTE 2; AQUATIC CHRONIC 1; H228, H302, H332, H360, H373, H401, H410 M-FACTOR - AQUATIC CHRONIC: 10	$\geq 90 - \leq 100$

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	SHOW THIS SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE.
IF INHALED	AFTER INHALATION: FRESH AIR. IMMEDIATELY CALL IN PHYSICIAN. IF BREATHING STOPS: IMMEDIATELY APPLY ARTIFICIAL RESPIRATION, IF NECESSARY ALSO OXYGEN.
IN CASE OF SKIN CONTACT	IN CASE OF SKIN CONTACT: TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/ SHOWER. CONSULT A PHYSICIAN.
IN CASE OF EYE CONTACT	AFTER EYE CONTACT: RINSE OUT WITH PLENTY OF WATER. CALL IN OPHTHALMOLOGIST. REMOVE CONTACT LENSES.
IF SWALLOWED	AFTER SWALLOWING: IMMEDIATELY MAKE VICTIM

DRINK WATER (TWO GLASSES AT MOST). 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 NEEDED

NO DATA AVAILABLE

SECTION 5. FIRE AND EXPLOSION DATA

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA
WATER FOAM CARBON DIOXIDE (CO₂) DRY POWDER

UNSUITABLE EXTINGUISHING MEDIA
FOR THIS SUBSTANCE/MIXTURE NO LIMITATIONS OF EXTINGUISHING AGENTS ARE GIVEN.

SPECIFIC HAZARDS DURING FIRE FIGHTING

COMBUSTIBLE.
DEVELOPMENT OF HAZARDOUS COMBUSTION GASES OR VAPOURS POSSIBLE IN THE EVENT OF FIRE.

HAZARDOUS COMBUSTION PRODUCTS

CARBON OXIDES
IRON OXIDES

SPECIFIC EXTINGUISHING METHODS

NO DATA AVAILABLE

FURTHER INFORMATION

SUPPRESS (KNOCK DOWN) GASES/VAPOURS/MISTS WITH A WATER SPRAY JET.
PREVENT FIRE EXTINGUISHING WATER FROM CONTAMINATING SURFACE WATER OR THE GROUND WATER SYSTEM.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

STAY IN DANGER AREA ONLY WITH SELF-CONTAINED BREATHING APPARATUS. PREVENT SKIN CONTACT BY KEEPING A SAFE DISTANCE OR BY WEARING SUITABLE PROTECTIVE CLOTHING.

SECTION 6. ACCIDENTAL RELEASE MEASURES

**PERSONAL
PRECAUTIONS,
PROTECTIVE
EQUIPMENT AND
EMERGENCY
PROCEDURES**

ADVICE FOR NON-EMERGENCY PERSONNEL:
AVOID INHALATION OF DUSTS.
AVOID SUBSTANCE CONTACT.
ENSURE ADEQUATE VENTILATION.
KEEP AWAY FROM HEAT AND SOURCES OF IGNITION.
EVACUATE THE DANGER AREA, OBSERVE EMERGENCY
PROCEDURES, CONSULT AN EXPERT.
ADVICE FOR EMERGENCY RESPONDERS:
FOR PERSONAL PROTECTION SEE SECTION 8.

**ENVIRONMENTAL
PRECAUTIONS**

DO NOT LET PRODUCT ENTER DRAINS.
RISK OF EXPLOSION.

**METHODS AND
MATERIALS FOR
CONTAINMENT AND
CLEANING UP**

COVER DRAINS. COLLECT, BIND, AND PUMP OFF SPILLS.
OBSERVE POSSIBLE MATERIAL RESTRICTIONS (SEE
SECTIONS 7 AND 10).
TAKE UP CAREFULLY. DISPOSE OF PROPERLY. CLEAN
UP AFFECTED AREA.
AVOID GENERATION OF DUSTS.

**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.FURTHER
PROCESSING OF SOLID MATERIALS MAY RESULT IN THE
FORMATION OF COMBUSTIBLE DUSTS. THE POTENTIAL
FOR COMBUSTIBLE DUST FORMATION SHOULD BE
TAKEN INTO CONSIDERATION BEFORE ADDITIONAL
PROCESSING OCCURS.
PROVIDE APPROPRIATE EXHAUST VENTILATION AT
PLACES WHERE DUST IS FORMED.KEEP AWAY FROM
SOURCES OF IGNITION - NO SMOKING.TAKE MEASURES
TO PREVENT THE BUILD UP OF ELECTROSTATIC
CHARGE.
FOR PRECAUTIONS SEE SECTION 2.2.

**CONDITIONS FOR SAFE
STORAGE, INCLUDING
ANY
INCOMPATIBILITIES**

KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND
WELL-VENTILATED PLACE.

FLAMMABLE SOLID HAZARDOUS MATERIALS

Store at 2 - 8 °C

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 WORKPLACE CONTROL PARAMETERS

COMPONENT	CAS-NO.	VALUE	CONTROL PARAMETERS	BASIS
FERROCENE	102-54-5	TWA	10 MG/M3 (IRON)	ACGIH
		TWA (RESPIRABLE)	5 MG/M3	NIOSH REL
		TWA (TOTAL)	10 MG/M3	NIOSH REL
		TWA (TOTAL DUST)	15 MG/M3	OSHA Z-1
		TWA (RESPIRABLE FRACTION)	5 MG/M3	OSHA Z-1

EXPOSURE CONTROLS

APPROPRIATE ENGINEERING CONTROLS

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

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION

SAFETY GLASSES WITH SIDE-SHIELDS CONFORMING TO EN166 USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).

SKIN PROTECTION

HANDLE 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: NITRILE RUBBER

MINIMUM LAYER THICKNESS: 0.11 MM

BREAK THROUGH TIME: 480 MIN

MATERIAL TESTED:DERMATRIL® (KCL 740, SIZE M)

SPLASH CONTACT

MATERIAL: NITRILE RUBBER

MINIMUM LAYER THICKNESS: 0.11 MM

BREAK THROUGH TIME: 480 MIN

MATERIAL TESTED:DERMATRIL® (KCL 740, SIZE M)

DATA SOURCE: KCL GMBH, D-36124 EICHENZELL, PHONE +49 (0)6659 87300, E-MAIL SALES@KCL.DE, TEST METHOD: EN374 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, FLAME RETARDANT ANTISTATIC PROTECTIVE CLOTHING. THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.

RESPIRATORY PROTECTION

WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULLFACE PARTICLE RESPIRATOR TYPE N100 (US) OR TYPE P3 (EN 143) RESPIRATOR CARTRIDGES AS A BACKUP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A FULL-FACE SUPPLIED AIR RESPIRATOR. USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU).

CONTROL OF ENVIRONMENTAL EXPOSURE

PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	ORANGE OR ORANGE YELLOW POWDER
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING	170 - 177 °C
POINT/FREEZING POINT	
BOILING POINT	249 °C
	METHOD: LIT.
FLASH POINT	NO DATA AVAILABLE
EVAPOURATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	THE SUBSTANCE OR MIXTURE IS A FLAMMABLE SOLID WITH THE CATEGORY 1.
	METHOD: REGULATION (EC) NO. 440/2008, ANNEX, A.10
	GLP: YES
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	NO DATA AVAILABLE
VAPOUR PRESSURE	< 0.1 HPA (40 °C)
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	1.49 G/CM3 (20 °C)
WATER SOLUBILITY	0.0001 G/L SLIGHTLY SOLUBLE (20 °C)
PARTITION	LOG POW: 3.711 (22 °C)
COEFFICIENT: N-OCTANOL/WATER	METHOD: OECD TEST GUIDELINE 107
AUTO-IGNITION	BIOACCUMULATION IS NOT EXPECTED.
TEMPERATURE	> 150 °C
DECOMPOSITION	
TEMPERATURE	NO DATA AVAILABLE
VISCOSITY	NO DATA AVAILABLE
EXPLOSIVE PROPERTIES	NO DATA AVAILABLE
OXIDIZING PROPERTIES	NO DATA AVAILABLE

OTHER SAFETY INFORMATION

NO DATA AVAILABLE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY	THE FOLLOWING APPLIES IN GENERAL TO FLAMMABLE ORGANIC SUBSTANCES AND MIXTURES: IN CORRESPONDINGLY FINE DISTRIBUTION, WHEN WHIRLED UP A DUST EXPLOSION POTENTIAL MAY GENERALLY BE ASSUMED.
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CHEMICAL STABILITY	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
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POSSIBILITY OF HAZARDOUS REACTIONS	VIOLENT REACTIONS POSSIBLE WITH: PERCHLORATES STRONG OXIDIZING AGENTS
CONDITIONS TO AVOID	NO DATA AVAILABLE
INCOMPATIBLE MATERIALS	NO DATA AVAILABLE
HAZARDOUS DECOMPOSITION PRODUCTS	IN THE EVENT OF FIRE: SEE SECTION 5

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY	LD50 ORAL - RAT - 1,320 MG/KG REMARKS: (RTECS) INHALATION: HARMFUL BY INHALATION. LD50 DERMAL - RAT - > 3,000 MG/KG (OECD TEST GUIDELINE 402) NO DATA AVAILABLE
SKIN CORROSION/IRRITATION	SKIN – RABBIT RESULT: NO SKIN IRRITATION - 4 H (OECD TEST GUIDELINE 404)
SERIOUS EYE DAMAGE/EYE IRRITATION	EYES – RABBIT RESULT: NO EYE IRRITATION - 72 H (OECD TEST GUIDELINE 405)
RESPIRATORY OR SKIN SENSITISATION	MAXIMISATION TEST - GUINEA PIG RESULT: DOES NOT CAUSE SKIN SENSITISATION. (OECD TEST GUIDELINE 406)
GERM CELL MUTAGENICITY	TEST TYPE: GENE MUTATION TEST TEST SYSTEM: MOUSE LYMPHOMA CELLS METABOLIC ACTIVATION: WITH AND WITHOUT METABOLIC ACTIVATION METHOD: OECD TEST GUIDELINE 476 RESULT: NEGATIVE TEST TYPE: MICRONUCLEUS TEST SPECIES: MOUSE METHOD: REGULATION (EC) NO. 440/2008, ANNEX, B.12 RESULT: NEGATIVE

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.

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: NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS ON OSHA'S LIST OF REGULATED CARCINOGENS.

REPRODUCTIVE TOXICITY

MAY DAMAGE THE UNBORN CHILD.
MAY DAMAGE FERTILITY.

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE

NO DATA AVAILABLE

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE

INHALATION - MAY CAUSE DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE. - LIVER

ASPIRATION HAZARD

NO DATA AVAILABLE

ADDITIONAL INFORMATION

RTECS: LK0700000

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

STOMACH - IRREGULARITIES - BASED ON HUMAN EVIDENCE

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY**TOXICITY TO FISH**

NOEC (LEUCISCUS IDUS (GOLDEN ORFE)): 20 MG/L
EXPOSURE TIME: 48 H
ANALYTICAL MONITORING: YES
METHOD: OECD TEST GUIDELINE 203

TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES

EC50 (DAPHNIA MAGNA (WATER FLEA)): 1.17 MG/L
EXPOSURE TIME: 48 H
METHOD: OECD TEST GUIDELINE 202

TOXICITY TO ALGAE/AQUATIC PLANTS

EC50 (DESMODESMUS SUBSPICATUS (GREEN ALGAE)): 1.03 MG/L
EXPOSURE TIME: 72 H
TEST TYPE: STATIC TEST
METHOD: OECD TEST GUIDELINE 201

TOXICITY TO FISH (CHRONIC TOXICITY)	NOEC (LEUCISCUS IDUS (GOLDEN ORFE)): 1.5 MG/L EXPOSURE TIME: 14 D TEST TYPE: SEMI-STATIC TEST ANALYTICAL MONITORING: YES METHOD: OECD TEST GUIDELINE 204
TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES (CHRONIC TOXICITY)	NOEC (DAPHNIA MAGNA (WATER FLEA)): 0.0015 MG/L METHOD: OECD TEST GUIDELINE 211
M-FACTOR (CHRONIC AQUATIC TOXICITY)	10
TOXICITY TO MICROORGANISMS	NOEC (PSEUDOMONAS PUTIDA): > 87.6 MG/L EXPOSURE TIME: 6 H TEST TYPE: STATIC TEST REMARKS: (ECHA)

PERSISTENCE AND DEGRADABILITY

BIODEGRADABILITY	AEROBIC INOCULUM: ACTIVATED SLUDGE RESULT: INHERENTLY BIODEGRADABLE. BIODEGRADATION: 73 % EXPOSURE TIME: 41 D METHOD: OECD TEST GUIDELINE 301B
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BIOACCUMULATIVE POTENTIAL

BIOACCUMULATION	REMARKS: NO BIOACCUMULATION IS TO BE EXPECTED (LOG POW <= 4).
PARTITION COEFFICIENT:	LOG POW: 3.711 (72 °F / 22 °C) PH: 7
NOCTANOL/WATER	METHOD: OECD TEST GUIDELINE 107 REMARKS: BIOACCUMULATION IS NOT EXPECTED.

MOBILITY IN SOIL	NO DATA AVAILABLE
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RESULTS OF PBT AND VPVB ASSESSMENT	PBT/VPVB ASSESSMENT NOT AVAILABLE AS CHEMICAL SAFETY ASSESSMENT NOT REQUIRED/NOT CONDUCTED
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OTHER ADVERSE EFFECTS	NO DATA AVAILABLE
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SECTION 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

PRODUCT	WASTE MATERIAL MUST BE DISPOSED OF IN ACCORDANCE WITH THE NATIONAL AND LOCAL REGULATIONS. LEAVE CHEMICALS IN ORIGINAL CONTAINERS. NO MIXING WITH OTHER WASTE. HANDLE UNCLEANED CONTAINERS LIKE THE PRODUCT ITSELF.
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**CONTAMINATED
PACKAGING**

DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

PROPER SHIPPING NAME: FLAMMABLE SOLID, ORGANIC, N.O.S. (FERROCENE)
UN NUMBER: 1325
CLASS: 4.1
PACKING GROUP: II
REPORTABLE QUANTITY
(RQ):
POISON INHALATION HAZARD NO

IMDG

PROPER SHIPPING NAME: FLAMMABLE SOLID, ORGANIC, N.O.S. (FERROCENE)
UN NUMBER: 1325
CLASS: 4.1
PACKING GROUP: II
EMS-NO F-A, S-G
MARINE POLLUTANT : YES

IATA

PROPER SHIPPING NAME: FLAMMABLE SOLID, ORGANIC, N.O.S. (FERROCENE)
UN NUMBER: 1325
CLASS: 4.1
PACKING GROUP: II

SPECIAL PRECAUTIONS FOR USER

THE TRANSPORT CLASSIFICATION(S) PROVIDED HEREIN ARE FOR INFORMATIONAL PURPOSES ONLY, AND SOLELY BASED UPON THE PROPERTIES OF THE UNPACKAGED MATERIAL AS IT IS DESCRIBED WITHIN THIS SAFETY DATA SHEET. TRANSPORTATION CLASSIFICATIONS MAY VARY BY MODE OF TRANSPORTATION, PACKAGE SIZES, AND VARIATIONS IN REGIONAL OR COUNTRY REGULATIONS.

SECTION 15. REGULATORY INFORMATION

CERCLA REPORTABLE QUANTITY

THIS MATERIAL DOES NOT CONTAIN ANY COMPONENTS WITH A CERCLA RQ.

SARA 304 EXTREMELY HAZARDOUS SUBSTANCES REPORTABLE QUANTITY

THIS MATERIAL DOES NOT CONTAIN ANY COMPONENTS WITH A SECTION 304 EHS RQ.

SARA 302 EXTREMELY HAZARDOUS SUBSTANCES THRESHOLD PLANNING QUANTITY

THIS MATERIAL DOES NOT CONTAIN ANY COMPONENTS WITH A SECTION 302 EHS TPQ.

SARA 311/312 HAZARDS FIRE HAZARD ACUTE HEALTH HAZARD CHRONIC
HEALTH HAZARD

SARA 313 THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL
COMPONENTS WITH KNOWN CAS NUMBERS THAT
EXCEED THE THRESHOLD (DE MINIMIS) REPORTING
LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.

US STATE REGULATIONS
MASSACHUSETTS RIGHT TO KNOW COMPONENTS

	CAS-NO.
FERROCENE	102-54-5

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

	CAS-NO.
FERROCENE	102-54-5

MAINE CHEMICALS OF HIGH CONCERN
PRODUCT DOES NOT CONTAIN ANY LISTED CHEMICALS

VERMONT CHEMICALS OF HIGH CONCERN
PRODUCT DOES NOT CONTAIN ANY LISTED CHEMICALS

WASHINGTON CHEMICALS OF HIGH CONCERN
PRODUCT DOES NOT CONTAIN ANY LISTED CHEMICALS

**THE COMPONENTS OF THIS PRODUCT ARE REPORTED IN THE FOLLOWING
INVENTORIES:**

TSCA ALL SUBSTANCES LISTED AS ACTIVE ON THE TSCA INVENTORY

TSCA LIST
NO SUBSTANCES ARE SUBJECT TO A SIGNIFICANT NEW USE RULE.

NO SUBSTANCES ARE SUBJECT TO TSCA 12(B) EXPORT NOTIFICATION
REQUIREMENTS.

SECTION 16. OTHER INFORMATION

FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.

H228	FLAMMABLE SOLID.
H302 + H332	HARMFUL IF SWALLOWED OR IF INHALED.
H360	MAY DAMAGE FERTILITY OR THE UNBORN CHILD.
H373	MAY CAUSE DAMAGE TO ORGANS (LIVER) THROUGH PROLONGED OR REPEATED EXPOSURE IF INHALED.
H401	TOXIC TO AQUATIC LIFE.
H410	VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

MSDS LEGEND

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

IMPORTANT:

THE INFORMATION ABOVE IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES. IN NO EVENT SHALL CII BE LIABLE FOR ANY CLAIMS, LOSSES, OR DAMAGES OF ANY THIRD PARTY OR FOR LOST PROFITS OR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES, HOWSOEVER ARISING, EVEN IF CII HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

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