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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 45541

NAME: Undecafluorohexanoic acid

SYNONYMS: Perfluorohexanoic acid

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) SKIN CORROSION (CATEGORY 1B), H314 SERIOUS EYE DAMAGE (CATEGORY 1), H318 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)

H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.

PRECAUTIONARY STATEMENT(S)

P264 WASH SKIN THOROUGHLY AFTER HANDLING.

P280 WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE

PROTECTION/ FACE PROTECTION.

P301 + P330 + P331 IF SWALLOWED: RINSE MOUTH. DO NOT INDUCE

VOMITING.

P303 + P361 + P353 IF ON SKIN (OR HAIR): REMOVE/ TAKE OFF IMMEDIATELY

ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/

SHOWER.

P304 + P340 + P310 IF INHALED: REMOVE PERSON TO FRESH AIR AND KEEP

COMFORTABLE FOR BREATHING, IMMEDIATELY CALL A

POISON CENTER/ DOCTOR.

P305 + P351 + P338 + IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL

MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND

EASY TO DO. CONTINUE RINSING. IMMEDIATELY CALL A

POISON CENTER/ DOCTOR.

P363 WASH CONTAMINATED CLOTHING BEFORE REUSE.

P405 STORE LOCKED UP.

P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED

WASTE DISPOSAL PLANT.

HAZARDS NOT NONE

OTHERWISE

CLASSIFIED (HNOC) OR NOT COVERED

DV CHC

BY GHS

P310

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: $C_6HF_{11}O_2$

MW: 314.05

CAS-NO. 307-24-4

PURITY: \geq 98% (GC)

HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION		
Undecafluorohexanoic acid				
	SKIN CORR. 1B; EYE DAM. 1;	<= 100 %		
	H314, H318			

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

SECTION 4. FIRST-AID MEASURES

DESCE	IDTION	OF FIRST AID	MEASURES
170,31 0		UP PIRSI AIII	VIEWANIER

GENERAL ADVICE FIRST AIDERS NEED TO PROTECT THEMSELVES. SHOW

THIS MATERIAL SAFETY DATA SHEET TO THE DOCTOR

IN ATTENDANCE.

IF INHALED AFTER INHALATION: FRESH AIR. CALL IN PHYSICIAN.

IN CASE OF SKIN

CONTACT

IN CASE OF SKIN CONTACT: TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/ SHOWER, CALL A PHYSICIAN IMMEDIATELY.

IN CASE OF EYE

CONTACT

AFTER EYE CONTACT: RINSE OUT WITH PLENTY OF WATER. IMMEDIATELY CALL IN OPHTHALMOLOGIST.

REMOVE CONTACT LENSES.

IF SWALLOWED AFTER SWALLOWING: MAKE VICTIM DRINK WATER

(TWO GLASSES AT MOST), AVOID VOMITING (RISK OF PERFORATION). CALL A PHYSICIAN IMMEDIATELY. DO

NOT ATTEMPT TO NEUTRALISE.

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

SUITABLE SUITABLE EXTINGUISHING MEDIA

EXTINGUISHING MEDIA WATER FOAM CARBON DIOXIDE (CO2) DRY POWDER

UNSUITABLE EXTINGUISHING MEDIA

FOR THIS SUBSTANCE/MIXTURE NO LIMITATIONS OF

EXTINGUISHING AGENTS ARE GIVEN.

SPECIAL HAZARDS CARBON OXIDES
ARISING FROM THE HYDROGEN FLUORIDE

SUBSTANCE OR MIXTURE COMBUSTIBLE.

DEVELOPMENT OF HAZARDOUS COMBUSTION GASES

OR VAPOURS POSSIBLE IN THE EVENT OF FIRE.

ADVICE FOR STAY IN DANGER AREA ONLY WITH SELF-CONTAINED BREATHING APPARATUS. PREVENT SKIN CONTACT BY

KEEPING A SAFE DISTANCE OR BY WEARING

SUITABLE PROTECTIVE CLOTHING.

FURTHER INFORMATION SUPPRESS (KNOCK DOWN) GASES/VAPORS/MISTS

WITH A WATER SPRAY JET. PREVENT FIRE

EXTINGUISHING WATER FROM CONTAMINATING SURFACE WATER OR THE GROUND WATER SYSTEM.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONALADVICE FOR NON-EMERGENCY PERSONNEL: DO NOTPRECAUTIONS,BREATHE VAPORS, AEROSOLS. AVOID SUBSTANCEPROTECTIVECONTACT. ENSURE ADEQUATE VENTILATION.EQUIPMENT ANDEVACUATE THE DANGER AREA, OBSERVE

EMERGENCY EMERGENCY PROCEDURES, CONSULT AN EXPERT. **PROCEDURES** FOR PERSONAL PROTECTION SEE SECTION 8.

ENVIRONMENTAL PRECAUTIONS

DO NOT LET PRODUCT ENTER DRAINS.

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 WITH LIQUID-ABSORBENT MATERIAL (E.G. CHEMIZORB). DISPOSE

OF PROPERLY. CLEAN UP AFFECTED AREA.

REFERENCE TO OTHER SECTIONS

FOR DISPOSAL SEE SECTION 13.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE FOR PRECAUTIONS SEE SECTION 2.2.

HANDLING

CONDITIONS FOR SAFE TIGHTLY CLOSED. KEEP LOCKED UP OR IN AN AREA ACCESSIBLE ONLY TO QUALIFIED OR AUTHORIZED

ANY INCOMPATIBILITIES PERSONS.

HYGROSCOPIC LIGHT SENSITIVE.

Store at RT

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

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES.

EXPOSURE CONTROLS

APPROPRIATEIMMEDIATELY CHANGE CONTAMINATED CLOTHING.ENGINEERINGAPPLY PREVENTIVE SKIN PROTECTION. WASH HANDSCONTROLSAND FACE AFTER WORKING WITH SUBSTANCE.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION USE EQUIPMENT FOR EYE PROTECTION TESTED AND

APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).

TIGHTLY FITTING SAFETY GOGGLES

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.

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.

RESPIRATORY PROTECTION

WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULLFACE RESPIRATOR WITH MULTI-PURPOSE COMBINATION (US) OR TYPE ABEK (EN 14387) 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 DO NOT LET PRODUCT ENTER DRAINS.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE Colorless to almost colorless clear liquid

ODOUR NO DATA AVAILABLE
ODOUR THRESHOLD NO DATA AVAILABLE
PH NO DATA AVAILABLE

MELTING

POINT/FREEZING POINT

INITIAL BOILING POINT 157 °C

AND BOILING RANGE

FLASH POINT

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 1.76

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 INFORMATION

NO DATA AVAILABLE

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

INCOMPATIBLE MATERIALS

STRONG OXIDIZING AGENTS

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

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY NO DATA AVAILABLE

INHALATION: NO DATA AVAILABLE

DERMAL: NO DATA AVAILABLE

NO DATA AVAILABLE

SKIN NO DATA AVAILABLE

CORROSION/IRRITATION

SERIOUS EYE NO DATA AVAILABLE

DAMAGE/EYE IRRITATION

RESPIRATORY OR SKIN NO DATA AVAILABLE SENSITISATION

GERM CELL NO DATA AVAILABLE MUTAGENICITY

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 OSHAS LIST OF REGULATED CARCINOGENS.

REPRODUCTIVE TOXICITY NO DATA AVAILABLE

SPECIFIC TARGET ORGAN

TOXICITY - SINGLE

EXPOSURE

NO DATA AVAILABLE

SPECIFIC TARGET ORGAN

TOXICITY - REPEATED

EXPOSURE

NO DATA AVAILABLE

ASPIRATION HAZARD 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

NO DATA AVAILABLE

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 NO DATA AVAILABLE

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. SEE FOR PROCESSES REGARDING THE RETURN OF CHEMICALS AND CONTAINERS, OR

CONTACT US THERE IF YOU HAVE FURTHER

QUESTIONS.

CONTAMINATED PACKAGING

DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

PROPER SHIPPING NAME: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

(Undecafluorohexanoic acid)

UN NUMBER: 3265 CLASS: 8 PACKING GROUP: II

REPORTABLE QUANTITY

(RQ):

POISON INHALATION NO

HAZARD:

IMDG

PROPER SHIPPING NAME: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

(Undecafluorohexanoic acid)

UN NUMBER: 3265
CLASS: 8
PACKING GROUP: II
EMS-NO: F-A, S-B

IATA

PROPER SHIPPING NAME: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

(Undecafluorohexanoic acid)

UN NUMBER: 3265 CLASS: 8 PACKING GROUP: II

SECTION 15. REGULATORY INFORMATION

SARA 302 COMPONENTS THIS MATERIAL DOES NOT CONTAIN ANY

COMPONENTS WITH A SECTION 302 EHS TPQ.

SARA 313 COMPONENTS 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.

SARA 311/312 HAZARDS ACUTE HEALTH HAZARD

MASSACHUSETTS RIGHT TO KNOW COMPONENTS

NO COMPONENTS ARE SUBJECT TO THE MASSACHUSETTS RIGHT TO KNOW ACT.

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

CAS-NO. REVISION DATE

Undecafluorohexanoic acid 307-24-4

NEW JERSEY RIGHT TO KNOW COMPONENTS

CAS-NO. REVISION DATE

Undecafluorohexanoic acid 307-24-4

SECTION 16. OTHER INFORMATION

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

H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.

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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