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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 34075

NAME: *trans*-4-Decenal

SYNONYMS:

24 HOUR EMERGENCY (800) 535-5053(USA)

TELEPHONE: 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 LIQUIDS (CATEGORY 4), H227

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

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

SIGNAL WORD WARNING

HAZARD STATEMENT(S)

H227 COMBUSTIBLE LIQUID.

PRECAUTIONARY STATEMENT(S)

P210 KEEP AWAY FROM HEAT, HOT SURFACES, SPARKS, OPEN FLAMES AND OTHER IGNITION SOURCES. NO SMOKING.

P280 WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECTION.

P370 + P378 IN CASE OF FIRE: USE APPROPRIATE MEDIA TO EXTINGUISH

P403 STORE IN A WELL-VENTILATED PLACE

P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT.

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC) OR NOT COVERED BY GHS

AFTER PROLONGED CONTACT WITH HIGHLY POROUS MATERIALS, THIS PRODUCT MAY SPONTANEOUSLY COMBUST.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: $C_{10}H_{18}O$

MW: 154.25

CAS-NO. 65405-70-1

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

HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
<i>trans</i> -4-Decenal	-	-

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 BREATHING IS DIFFICULT, REMOVE TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING. FOR BREATHING DIFFICULTIES, OXYGEN

	MAY BE NECESSARY. CALL A PHYSICIAN IF SYMPTOMS DEVELOP OR PERSIST.
IN CASE OF SKIN CONTACT	TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS AND PERSISTS. WASH SKIN THOROUGHLY WITH SOAP AND WATER FOR SEVERAL MINUTES.
IN CASE OF EYE CONTACT	REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS AND PERSISTS. PROMPTLY WASH EYES WITH PLENTY OF WATER WHILE LIFTING THE EYE LIDS.
IF SWALLOWED	CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. IF SWALLOWED, RINSE MOUTH WITH WATER (ONLY IF THE PERSON IS CONSCIOUS). DO NOT INDUCE VOMITING. IF VOMITING OCCURS, THE HEAD SHOULD BE KEPT LOW SO THAT STOMACH VOMIT DOESN'T ENTER THE LUNGS.
MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED	DIRECT CONTACT WITH EYES MAY CAUSE TEMPORARY IRRITATION.
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 SPRAY, FOG, CO2, DRY CHEMICAL, OR ALCOHOL RESISTANT FOAM.
	UNSUITABLE EXTINGUISHING MEDIA DO NOT USE A SOLID WATER STREAM AS IT MAY SCATTER AND SPREAD FIRE.
SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE	FIRE MAY PRODUCE IRRITATING, CORROSIVE AND/OR TOXIC GASES. POROUS MATERIAL SUCH AS RAGS, PAPER, INSULATION, OR ORGANIC CLAY MAY SPONTANEOUSLY COMBUST WHEN WETTED WITH THIS MATERIAL.
ADVICE FOR FIREFIGHTERS	WEAR SELF-CONTAINED BREATHING APPARATUS FOR FIREFIGHTING IF NECESSARY.

MOVE CONTAINERS FROM FIRE AREA IF YOU CAN DO SO WITHOUT RISK. WATER RUNOFF CAN CAUSE ENVIRONMENTAL DAMAGE. VENTILATE CLOSED SPACES BEFORE ENTERING THEM. KEEP RUN-OFF WATER OUT OF SEWERS AND WATER SOURCES. DIKE FOR WATER CONTROL.

FURTHER INFORMATION

USE WATER SPRAY TO COOL UNOPENED CONTAINERS. STATIC CHARGES GENERATED BY EMPTYING PACKAGE IN OR NEAR FLAMMABLE VAPOR MAY CAUSE FLASH FIRE.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS,
PROTECTIVE EQUIPMENT
AND EMERGENCY
PROCEDURES

USE PERSONAL PROTECTIVE EQUIPMENT. AVOID BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. REMOVE ALL SOURCES OF IGNITION. EVACUATE PERSONNEL TO SAFE AREAS. BEWARE OF VAPOURS ACCUMULATING TO FORM EXPLOSIVE CONCENTRATIONS. VAPOURS CAN ACCUMULATE IN LOW AREAS.

FOR PERSONAL PROTECTION SEE SECTION 8.

ENVIRONMENTAL
PRECAUTIONS

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

METHODS AND
MATERIALS FOR
CONTAINMENT AND
CLEANING UP

CONTAIN SPILLAGE, AND THEN COLLECT WITH AN ELECTRICALLY PROTECTED VACUUM CLEANER OR BY WET-BRUSHING AND PLACE IN CONTAINER FOR DISPOSAL ACCORDING TO LOCAL REGULATIONS (SEE SECTION 13).

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 INHALATION OF VAPOUR OR MIST. 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

DO NOT STORE IN DIRECT SUNLIGHT. KEEP CONTAINER CLOSED. HANDLE CONTAINERS WITH CARE. OPEN SLOWLY IN ORDER TO CONTROL POSSIBLE PRESSURE RELEASE. STORE IN A COOL, WELL-VENTILATED AREA. KEEP UNDER A NITROGEN BLANKET.

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

APPROPRIATE ENGINEERING CONTROLS

USE EXPLOSION-PROOF VENTILATION EQUIPMENT TO STAY BELOW EXPOSURE LIMITS. ADEQUATE VENTILATION SHOULD BE PROVIDED SO THAT EXPOSURE LIMITS ARE NOT EXCEEDED.

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 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, 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 FULL-FACE RESPIRATOR WITH MULTIPURPOSE 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	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	Colorless to pale yellow liquid
ODOUR	CHARACTERISTIC
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING POINT/FREEZING POINT	
BOILING POINT	201 - 203 °C (Lit.)
FLASH POINT	78 °C
EVAPOURATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	NO DATA AVAILABLE
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	
VAPOUR PRESSURE	0.12 MM HG AT 25 °C
VAPOUR DENSITY	5.3
RELATIVE DENSITY	0.84 (Lit.)
WATER SOLUBILITY	INSOLUBLE
PARTITION COEFFICIENT: N- OCTANOL/WATER	NO DATA AVAILABLE
AUTO-IGNITION TEMPERATURE	NO DATA AVAILABLE
DECOMPOSITION TEMPERATURE	NO DATA AVAILABLE
VISCOSITY	NO DATA AVAILABLE
EXPLOSIVE PROPERTIES	NOT EXPLOSIVE
OXIDIZING PROPERTIES	NOT OXIDIZING

OTHER SAFETY INFORMATION

SPECIFIC GRAVITY	0.84 AT 25 °C
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SECTION 10. STABILITY AND REACTIVITY

REACTIVITY	THE PRODUCT IS STABLE AND NON-REACTIVE UNDER NORMAL CONDITIONS OF USE, STORAGE AND TRANSPORT
CHEMICAL STABILITY	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
POSSIBILITY OF HAZARDOUS REACTIONS	NO DANGEROUS REACTION KNOWN UNDER CONDITIONS OF NORMAL USE.
CONDITIONS TO AVOID	POROUS MATERIAL SUCH AS RAGS, PAPER, INSULATION, OR ORGANIC CLAY MAY SPONTANEOUSLY COMBUST WHEN WETTED WITH THIS MATERIAL.
INCOMPATIBLE MATERIALS	STRONG OXIDIZING AGENTS
HAZARDOUS DECOMPOSITION PRODUCTS	NO HAZARDOUS DECOMPOSITION PRODUCTS IF STORED AND HANDLED AS INDICATED. IN THE EVENT OF FIRE: SEE SECTION 5

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY	LD50 ORAL RAT - 7000 MG/KG INHALATION: NO DATA AVAILABLE DERMAL: NO DATA AVAILABLE NO DATA AVAILABLE
SKIN CORROSION/IRRITATION	PROLONGED SKIN CONTACT MAY CAUSE TEMPORARY IRRITATION.
SERIOUS EYE DAMAGE/EYE IRRITATION	DIRECT CONTACT WITH EYES MAY CAUSE TEMPORARY IRRITATION. CAUSES MILD EYE IRRITATION.
RESPIRATORY OR SKIN SENSITISATION	NO DATA AVAILABLE
GERM CELL MUTAGENICITY	NO DATA AVAILABLE
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: 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 TOXICITY - SINGLE EXPOSURE NO DATA AVAILABLE

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE NO DATA AVAILABLE

ASPIRATION HAZARD NO DATA AVAILABLE

ADDITIONAL INFORMATION DIRECT CONTACT WITH EYES MAY CAUSE TEMPORARY IRRITATION.

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

OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO
A LICENSED DISPOSAL COMPANY. CONTACT A LICENSED
PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE
OF THIS MATERIAL.

**CONTAMINATED
PACKAGING**

DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

PROPER SHIPPING NAME: COMBUSTIBLE LIQUID, N.O.S. (DECENAL TRANS-4)
NA-NUMBER: 1993
CLASS: NONE
PACKING GROUP: III
REPORTABLE QUANTITY (RQ): 150
MARINE POLLUTANT NO

IMDG

NOT DANGEROUS GOODS

IATA

NOT DANGEROUS GOODS

SECTION 15. REGULATORY INFORMATION

SARA 302 COMPONENTS

NO CHEMICALS IN THIS MATERIAL ARE SUBJECT TO THE
REPORTING REQUIREMENTS OF SARA TITLE III, SECTION
302.

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 YES

MASSACHUSETTS RIGHT TO KNOW COMPONENTS

	CAS #	REVISION DATE
<i>trans</i> -4-Decenal	65405-70-1	

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

	CAS #	REVISION DATE
<i>trans</i> -4-Decenal	65405-70-1	

NEW JERSEY RIGHT TO KNOW COMPONENTS

	CAS #	REVISION DATE
<i>trans</i> -4-Decenal	65405-70-1	

CALIFORNIA PROP. 65 COMPONENTS THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS 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.

H227 COMBUSTIBLE LIQUID.

HMIS RATING

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

NFPA RATING

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

MSDS LEGEND

MW:	MOLECULAR WEIGHT
MF:	MOLECULAR FORMULA
VOC:	VOLATILE ORGANIC COMPOUNDS
ACGIH:	AMERICAN CONFERENCE OF GOVERNMENTAL 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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VERSION: 3.1.

REVISION DATE: 01/27/2017