



MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT CODE	A0413
PRODUCT NAME	CIS 3 HEXENYL PYRUVATE
SUPPLIER	Shanghai M & U International Trade Co., Ltd. Rm 1717, No 598 North NuJiang Road 200333 Shanghai, China +86-21-32515501 32515502 sales@mu-intel.com

FOR EMERGENCIES CALL CHEMTREC: 800-424-9300 (24-HOURS)

2. HAZARD IDENTIFICATION:

CARCINOGENICITY

NTP	NO
OSHA	NO
IARC MONOGRAPH	NO
OSHA PEL	NOT ESTABLISHED
ACGIH TLV	NOT ESTABLISHED

ACUTE TOXICITY DATA

ORAL LD50	NOT ESTABLISHED
DERMAL LD50	NOT ESTABLISHED
INHALATION LC50	NOT ESTABLISHED

HEALTH HAZARDS (ACUTE AND CHRONIC)

SKIN CONTACT	MAY CAUSE IRRITATION
INHALATION:	NOT ESTABLISHED
EYE CONTACT	MAY CAUSE IRRITATION
INGESTION	NOT ESTABLISHED

OTHER EFFECTS:

THE HEALTH HAZARD INFORMATION IS BASED ON LABORATORY ANIMAL TEST DATA FOR THE INDIVIDUAL COMPONENTS OF THIS PRODUCT IN THEIR PURE FORM AS PROVIDED UNDER 29 CFR 1910.1200 (D)(5)(II). THE USER SHOULD CONSIDER THE RELEVANCY OF THIS INFORMATION IN A MANNER CONSISTENT WITH ITS PARTICULAR PURPOSE

3. COMPOSITION AND INFORMATION ON INGREDIENTS:

SYNONYMS	(Z)-3-HEXEN-1-YL PYRUVATE
FORMULA	C9 H14 O3
MOLECULAR WEIGHT	170.20 g/mol
CAS-NO	68133-76-6
EC-NO	268-703-7

4. FIRST-AID GUIDE:

EYES

IMMEDIATELY FLUSH EYES WITH LARGE QUANTITIES OF COLD CLEAN WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN IMMEDIATELY

SKIN

WASH WITH SOAP AND WATER. FLUSH WITH LARGE QUANTITIES OF WATER. IF IRRITATION PERSISTS CALL A PHYSICIAN

INHALATION

REMOVE TO FRESH AIR AND CALL A PHYSICIAN IF NECESSARY

INGESTION

ADMINISTER WATER OR MILK TO DILUTE. CONTACT A PHYSICIAN OR LOCAL POISON CONTROL CENTER IMMEDIATELY. **DO NOT** INDUCE VOMITING

5. FIRE-FIGHTING GUIDE:

FLASH POINT (°F)	200+	METHOD USED	CC
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EXTINGUISHING MEDIA

CARBON DIOXIDE; DRY CHEMICAL; UNIVERSAL TYPE FOAM

SPECIAL FIRE FIGHTING PROCEDURES

EVACUATE UNPROTECTED AND UNTRAINED PERSONNEL. TRAINED FIREFIGHTING PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE GEAR

UNUSUAL FIRE, EXPLOSION AND STABILITY HAZARDS

SEALED CONTAINERS MAY BUILD UP PRESSURE AT HIGH TEMPERATURES. IF POSSIBLE, KEEP CONTAINERS COOL WITH WATER SPRAY. CARBON DIOXIDE AND CARBON MONOXIDE PRODUCED UPON COMBUSTION

6. ACCIDENTAL RELEASE GUIDE:

REMOVE ANY SOURCES OF FLAME OR SPARKS. IF IN A CONFINED AREA NIOSH APPROVED RESPIRATORY PROTECTION MAY BE REQUIRED. ABSORB SPILLS ON VERMICULITE OR OTHER SUITABLE ABSORBENT MATERIAL AND REMOVE TO AN APPROVED DISPOSAL CONTAINER

7. HANDLING AND STORAGE:

IT IS RECOMMENDED THAT THIS MATERIAL BE STORED IN TIGHT FULL CONTAINERS IN A COOL, DRY PLACE AWAY FROM LIGHT

8. EXPOSURE AND PERSONAL PROTECTION:

EYES

IN GENERAL, THE USE OF SAFETY GLASSES IS RECOMMENDED. IF THE MATERIAL IS TO BE HANDLED IN A MANNER WHERE SPLASHING MAY OCCUR, THE USE OF SPLASH GOGGLES OR FACE SHIELD IS RECOMMEND

RESPIRATORY

IN WELL VENTILATED AREAS RESPIRATORY PROTECTION IS NOT NORMALLY REQUIRED. IN CONFINED, POORLY VENTILATED AREAS THE USE OF NIOSH-APPROVED RESPIRATORY PROTECTION MAYBE REQUIRED OR IF MATERIAL IS RATED TOXIC BY INHALATION

EQUIPMENT AND APPAREL

THE USE OF CHEMICAL RESISTANT GLOVES IS RECOMMENDED. ACCEPTABLE INDUSTRIAL HYGIENE PRACTICES SHOULD BE MAINTAINED. LIMIT EXPOSURE TO PRODUCT WHENEVER POSSIBLE, WASH AFTER ANY CONTACT. THOROUGHLY WASH ANY CONTAMINATED CLOTHING OR SHOES

VENTILATION

VENTILATION MEETING ACGIH STANDARDS SHOULD BE EMPLOYED

9. PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL STATE	LIQUID
% VOLATILE	N/A
ODOR	GREEN, SPICY, CAMELLIC
MELTING POINT (°C)	N/A
COLOR	PALE YELLOW TO YELLOW
VAPOR DENSITY (AIR = 1)	>1
SOLUBILITY IN WATER	INSOLUBLE
REFRACTIVE INDEX @ 20°C	1.440
BOILING POINT (°C)	76
WATER CONTENT	N/A
VAPOR PRESSURE (MM HG @ 20°C)	N/A
ALCOHOL CONTENT	N/A
SPECIFIC GRAVITY @ 25°C (H ₂ O=1.0)	0.985

10. STABILITY AND REACTIVITY:

THIS MATERIAL PRESENTS NO SIGNIFICANT HAZARD. HAZARDOUS POLYMERIZATION WILL NOT OCCUR AND IT WILL NOT REACT VIOLENTLY WITH WATER

CONTACT WITH HIGHLY REACTIVE CHEMICAL OXIDANTS SHOULD BE AVOIDED. IF BURNED THIS PRODUCT WILL PRODUCE CARBON MONOXIDE AND/OR CARBON DIOXIDE

11. DISPOSAL RECOMMENDATIONS:

DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS

12. TRANSPORTATION INFORMATION:

DOT
NON-REGULATED

IMDG
NON-REGULATED

IATA
NON-REGULATED

13. REGULATORY INFORMATION:

US FEDERAL
HMIS III: PHYSICAL HAZARD: 1
HEALTH: 1 FLAMMABILITY: 1 REACTIVITY: 0 PERSONAL PROTECTION: X

TSCA
CAS# 68133-76-6 IS LISTED ON THE TSCA INVENTORY

HEALTH & SAFETY REPORTING LIST
NONE OF THE CHEMICALS ARE ON THE HEALTH & SAFETY REPORTING LIST

CHEMICAL TEST RULES
NONE OF THE CHEMICALS IN THIS PRODUCT ARE UNDER A CHEMICAL TEST RULE

SECTION 12B
NONE OF THE CHEMICALS ARE LISTED UNDER TSCA SECTION 12B

TSCA SIGNIFICANT NEW USE RULE
NONE OF THE CHEMICALS IN THIS MATERIAL HAVE A SNUR UNDER TSCA

CERCLA HAZARDOUS SUBSTANCES AND CORRESPONDING RQS

NONE OF THE CHEMICALS IN THIS MATERIAL HAVE AN RQ

SARA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES

NONE OF THE CHEMICALS IN THIS PRODUCT HAVE A TPQ

SECTION 313

NO CHEMICALS ARE REPORTABLE UNDER SECTION 313

CLEAN AIR ACT

THIS MATERIAL DOES NOT CONTAIN ANY HAZARDOUS AIR POLLUTANTS

THIS MATERIAL DOES NOT CONTAIN ANY CLASS 1 OZONE DEPLETORS

THIS MATERIAL DOES NOT CONTAIN ANY CLASS 2 OZONE DEPLETORS

CLEAN WATER ACT

NONE OF THE CHEMICALS IN THIS PRODUCT ARE LISTED AS HAZARDOUS
SUBSTANCES UNDER THE CWA

NONE OF THE CHEMICALS IN THIS PRODUCT ARE LISTED AS PRIORITY
POLLUTANTS UNDER THE CWA

NONE OF THE CHEMICALS IN THIS PRODUCT ARE LISTED AS TOXIC POLLUTANTS
UNDER THE CWA

OSHA

NONE OF THE CHEMICALS IN THIS PRODUCT ARE CONSIDERED HIGHLY
HAZARDOUS BY OSHA

STATE

CAS# 68133-76-6 IS NOT PRESENT ON STATE LISTS FROM CA, PA, MN, MA, FL, OR
NJ

CALIFORNIA PROP 65

CALIFORNIA NO SIGNIFICANT RISK LEVEL: NONE OF THE CHEMICALS IN THIS
PRODUCT ARE LISTED

EUROPEAN/INTERNATIONAL REGULATIONS

EUROPEAN LABELING IN ACCORDANCE WITH EC DIRECTIVES

HAZARD SYMBOLS

NOT AVAILABLE

RISK PHRASES

R 36/38 IRRITATING TO SKIN AND EYES

SAFETY PHRASES

S 7/8 KEEP CONTAINER TIGHTLY CLOSED AND DRY

S16 KEEP AWAY FROM SOURCES OF IGNITION – NO SMOKING

S 24/25 AVOID CONTACT WITH SKIN AND EYES

S 37 WEAR SUITABLE GLOVES
S 39 WEAR EYE/FACE PROTECTION

WGK (WATER DANGER/PROTECTION)

CAS# 68133-76-6

CANADA - DSL/NDSL

CAS# 68133-76-6

CANADA - WHMIS

WHMIS: NOT AVAILABLE.

THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CONTROLLED PRODUCTS REGULATIONS AND THE MSDS CONTAINS ALL OF THE INFORMATION REQUIRED BY THOSE REGULATIONS

14. OTHER INFORMATION:

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM CURRENT AND RELIABLE SOURCES. HOWEVER, THE DATA IS PROVIDED WITHOUT ANY WARRANTY, EXPRESSED OR IMPLIED, REGARDING ITS CORRECTNESS OR ACCURACY. SINCE THE CONDITIONS FOR USE, HANDLING, STORAGE AND DISPOSAL OF THIS PRODUCT ARE BEYOND M&U'S CONTROL, IT IS THE RESPONSIBILITY OF THE USER BOTH TO DETERMINE SAFE CONDITIONS FOR USE OF THIS PRODUCT AND TO ASSUME LIABILITY FOR LOSS, DAMAGE, OR EXPENSE ARISING OUT OF THE PRODUCTS IMPROPER USE. NO WARRANTY EXPRESSED OR IMPLIED REGARDING THE PRODUCT DESCRIBED HEREIN WILL BE CREATED BY OR INFERRED FROM ANY STATEMENT OR OMISSION IN THE MSDS. VARIOUS FEDERAL, STATE, OR PROVINCIAL AGENCIES MAY HAVE SPECIFIC REGULATIONS CONCERNING THE TRANSPORTATION, HANDLING, STORAGE, USE, OR DISPOSAL OF THIS PRODUCT WHICH MAY NOT BE REFLECTED IN THE MSDS. THE USER SHOULD REVIEW THESE REGULATIONS TO ENSURE FULL COMPLIANCE.