Chem-Impex International Inc.

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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #:	38091
NAME:	Neostigmine methyl sulfate
SYNONYMS:	(3-Dimethylcarbamoyloxyphenyl)trimethylammonium methyl sulfate (3-Hydroxyphenyl)trimethylammonium methyl sulfate dimethylcarbamate
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) ACUTE TOXICITY, ORAL (CATEGORY 2), H300 SKIN IRRITATION (CATEGORY 2), H315 EYE IRRITATION (CATEGORY 2A), H319 RESPIRATORY SENSITIZATION (CATEGORY 1), H334 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (CATEGORY 3), RESPIRATORY SYSTEM, H335

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

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

PICTOGRAM



SIGNAL WORD DANGE

HAZARD STATEMENT(S)

H300	FATAL IF SWALLOWED.
H315	CAUSES SKIN IRRITATION.
H319	CAUSES SERIOUS EYE IRRITATION.
H334	MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR
	BREATHING DIFFICULTIES IF INHALED.
H335	MAY CAUSE RESPIRATORY IRRITATION.

PRECAUTIONARY STATEMENT(S)

P261	AVOID BREATHING 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.
P280	WEAR PROTECTIVE GLOVES/ EYE PROTECTION/ FACE
	PROTECTION.
P285	IN CASE OF INADEQUATE VENTILATION WEAR
	RESPIRATORY PROTECTION.
P301 + P310	IF SWALLOWED: IMMEDIATELY CALL A POISON
	CENTER/DOCTOR.
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.
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.
P342 + P311	IF EXPERIENCING RESPIRATORY SYMPTOMS: CALL A
	POISON CENTER/ DOCTOR.
P362	TAKE OFF CONTAMINATED CLOTHING AND WASH BEFORE
	REUSE.
P403 + P233	STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER
	TIGHTLY CLOSED.

P405STORE LOCKED UP.P501DISPOSE 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:	$C_{13}H_{22}N_2O_6S$
MW:	334.39

CAS-NO. 51-60-5

PURITY:

HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
Neostigmine methyl sulfa	ite	
	ACUTE TOX. 2; SKIN IRRIT. 2;	<= 100%
	EYE IRRIT. 2A; RESP. SENS. 1;	
	STOT SE 3; H300, H315, H319,	
	H334, H335	

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. TAKE VICTIM IMMEDIATELY TO HOSPITAL. CONSULT A PHYSICIAN.

IN CASE OF EYE	RINSE THOROUGHLY WITH PLENTY OF WATER FOR AT
CONTACT	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	THE MOST IMPORTANT KNOWN SYMPTOMS AND
SYMPTOMS AND	EFFECTS ARE DESCRIBED IN THE LABELLING (SEE
EFFECTS, BOTH ACUTE AND DELAYED	SECTION 2.2) AND/OR IN SECTION 11
INDICATION OF ANY	NO DATA AVAILABLE
IMMEDIATE MEDICAL	
ATTENTION AND	
SPECIAL TREATMENT	
NEEDED	

SECTION 5. FIRE AND EXPLOSION DATA

EXTINGUISHING MEDIA

SUITABLE	USE WATER SPRAY, ALCOHOL-RESISTANT FOAM, DRY
EXTINGUISHING MEDIA	CHEMICAL OR CARBON DIOXIDE.
SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE	CARBON OXIDES, NITROGEN OXIDES (NOX), SULPHUR OXIDES
ADVICE FOR	WEAR SELF-CONTAINED BREATHING APPARATUS FOR
FIREFIGHTERS	FIREFIGHTING IF NECESSARY.
FURTHER INFORMATION	NO DATA AVAILABLE

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES	WEAR RESPIRATORY PROTECTION. 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	PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE
PRECAUTIONS	TO DO SO. DO NOT LET PRODUCT ENTER DRAINS.

METHODS AND	PICK UP AND ARRANGE DISPOSAL WITHOUT
MATERIALS FOR	CREATING DUST. SWEEP UP AND SHOVEL. KEEP IN
CONTAINMENT AND CLEANING UP	SUITABLE, CLOSED CONTAINERS FOR DISPOSAL.

REFERENCE TO OTHER FOR DISPOSAL SEE SECTION 13. **SECTIONS**

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.
SPECIFIC END USE(S)	Store at 2 - 8 °C 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	AVOID CONTACT WITH SKIN, EYES AND CLOTHING.
ENGINEERING CONTROLS	WASH HANDS BEFORE BREAKS AND IMMEDIATELY
	AFTER HANDLING THE PRODUCT.

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.
	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)
	IF USED IN SOLUTION, OR MIXED WITH OTHER SUBSTANCES, AND UNDER CONDITIONS WHICH DIFFER FROM EN 374, CONTACT THE SUPPLIER OF THE EC 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.
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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	White to almost white powder to crystal
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING	145 - 149 °C
POINT/FREEZING POINT	
INITIAL BOILING POINT	
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	
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 STRONG OXIDIZING AGENTS MATERIALS

HAZARDOUSHAZARDOUS DECOMPOSITION PRODUCTS FORMEDDECOMPOSITIONUNDER FIRE CONDITIONS. - CARBON OXIDES,PRODUCTSNITROGEN OXIDES (NOX), SULPHUR OXIDESOTHER DECOMPOSITION PRODUCTS - NO DATAAVAILABLEIN THE EVENT OF FIRE: SEE SECTION 5

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY LD50 ORAL - MOUSE - 7.5 MG/KG REMARKS: RESPIRATORY DISORDER 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:

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.

NO COMPONENT OF THIS PRODUCT PRESENT AT

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	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	INHALATION - MAY CAUSE RESPIRATORY IRRITATION.
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	NO DATA AVAILABLE
ASPIRATION HAZARD	NO DATA AVAILABLE
ADDITIONAL INFORMATION	RTECS: CY1225000
	STOMACH - IRREGULARITIES - BASED ON HUMAN EVIDENCE

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY NO DATA AVAILABLE

PERSISTENCE AND NO DATA AVAILABLE DEGRADABILITY

BIOACCUMULATIVE NO DATA AVAILABLE **POTENTIAL**

MOBILITY IN SOIL NO DATA AVAILABLE

RESULTS OF PBT ANDPBT/VPVB ASSESSMENT NOT AVAILABLE AS**VPVB ASSESSMENT**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. DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN
	AFTERBURNER AND SCRUBBER.
CONTAMINATED PACKAGING	DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)	
PROPER SHIPPING NAME:	TOXIC SOLID, ORGANIC, N.O.S. (Neostigmine methyl sulfate)
UN NUMBER:	2811
CLASS:	6.1
PACKING GROUP:	II
REPORTABLE QUANTITY	
(RQ):	
POISON INHALATION	NO
HAZARD:	
IMDG	
PROPER SHIPPING NAME:	TOXIC SOLID, ORGANIC, N.O.S. (Neostigmine methyl sulfate)
UN NUMBER:	2811
CLASS:	6.1
PACKING GROUP:	II
EMS-NO:	F-A, S-A
IATA	
PROPER SHIPPING NAME:	TOXIC SOLID, ORGANIC, N.O.S. (Neostigmine methyl sulfate)
UN NUMBER:	2811
CLASS:	6.1
PACKING GROUP:	II

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 ACUTE HEALTH HAZARD, CHRONIC 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

Neostigmine methyl sulfate 51-60-5

KEVISION DAL

NEW JERSEY RIGHT TO KNOW COMPONENTS

	CAS-NO.
Neostigmine methyl sulfate	51-60-5

REVISION DATE

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.		
H300	FATAL IF SWALLOWED.	
H315	CAUSES SKIN IRRITATION.	
H319	CAUSES SERIOUS EYE IRRITATION.	
H334	MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR	
	BREATHING DIFFICULTIES IF INHALED.	
H335	MAY CAUSE RESPIRATORY IRRITATION.	

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:		
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 INFORMATI	ON, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE.	

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