



Please read the entire document. This Material Safety Data Sheet contains important environmental, health and toxicology information for your employees, and anyone who will use, transport, store, dispose of or handle this product. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this MSDS must be given to the buyer or the information contained herein must be incorporated in your MSDS.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: MIDAS[®] 50:50
EPA REGISTRATION NUMBER(S): 66330-57
SYNONYM(S): TM-42502

COMPANY

Arysta LifeScience North America Corporation
 15401 Weston Parkway, Suite 150
 Cary, NC 27513

EMERGENCY TELEPHONE NUMBERS

HEALTH EMERGENCY:	SPILL EMERGENCY:
1-866-303-6952, or	1-800-424-9300, or
1-651-632-8946	1-703-527-3887

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Active Ingredient(s)/ Hazardous Inert Ingredient(s)	CAS #	Exposure Limits	% Weight	% Volume
Methyl Iodide (Iodomethane)	74-88-4	TWA^a OSHA PEL ^b : 5 ppm 28 mg/m ³ ACGIH TLV ^c : 2 ppm 12 mg/m ³ NIOSH REL ^d : 2 ppm 10 mg/m ³	49.90	NDA
Chloropicrin	76-06-2	TWA OSHA PEL: 0.1 ppm 0.7 mg/m ³ ACGIH TLV: 0.1 ppm 0.67 mg/m ³ NIOSH REL: 0.1 ppm 0.7 mg/m ³ DFG MAK ^e : 0.1 ppm 0.68 mg/m ³ PEAK^f DFG MAK: I ^g	49.75	NDA
Other ingredients			0.35	NDA

Only the identities of the active ingredient(s) and any hazardous inert ingredients are listed. Specific information on all of this product's ingredients can be obtained by the treating medical professional or spill emergency responder for the management of exposures, spills, or safety assessments.

*Source: *Guide to Occupational Exposure Values 2000*, published by ACGIH

^a**TWA**: Time-weighted average exposure concentration for a conventional 8-hour (TLV, PEL) or up to a 10-hour (REL) workday and a 40-hour workweek.

^b**OSHA PEL**: Occupational Safety and Health Administration Permissible Exposure Limits.

^c**ACGIH TLV**: American Conference of Governmental Industrial Hygienists, Inc., Threshold Limit Values.

^d**NIOSH REL**: National Institute for Occupational Safety and Health Recommended Exposure Limits.

^e**DFG MAK**: Federal Republic of Germany (DFG), Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area 1999 Maximum Concentration Values in the Workplace (MAKs).

^f**PEAK**: Federal Republic of Germany (DFG), Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area 1999 Maximum Concentration Values in the Workplace (MAKs) peak level.

^g Local irritants; peak level is 2 times MAK; maximum duration per shift is 5-min, momentary value; maximum frequency per shift is 8. The monetary value is a level which the concentration should never exceed. It represents a limit to be observed in work area technical planning; the analytical testing can then be carried out by use of sampling procedures designed for recording average values.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER:	<ul style="list-style-type: none"> - CORROSIVE - CAUSES IRREVERSIBLE EYE DAMAGE AND SKIN BURNS - MAY BE FATAL IF SWALLOWED OR INHALED - HARMFUL IF ABSORBED THROUGH SKIN - DO NOT GET IN EYES, ON SKIN OR ON CLOTHING - DO NOT BREATHE VAPOR - PROLONGED SKIN CONTACT MAY CAUSE ALLERGIC REACTIONS
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Acute Health Hazards

Eye Contact: Vapors can cause irritation. Splashes may cause severe irritation with permanent eye damage.

Skin Contact: Prolonged contact can cause severe irritation or related adverse skin effects.

Inhalation: Inhalation of vapors can irritate the respiratory tract. Overexposure may produce symptoms of vertigo, delirium and mental disturbances. Other symptoms may include slurred speech, drowsiness, coughing, nausea and vomiting. Higher exposures can cause a build up of fluid in the lungs, which can cause death.

Ingestion: Ingestion may damage the gastro-intestinal tract. Severe intoxication can occur with symptoms of central nervous system depression. Coma, convulsions, and death may follow.

Chronic Health Hazards (Including Cancer): See Section 11.

SECTION 4: FIRST AID MEASURES

Eyes: Hold eye(s) open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye(s). Call a poison control center or doctor for treatment advice.

Skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Inhalation: Move person to fresh air. If person is not breathing call 9-1-1 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Ingestion: Call a poison control center or doctor immediately for medical advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Symptoms of overexposure may include irritation to eyes, skin, and respiratory system, shortness of breath, nausea, vomiting, dizziness, ataxia, slurred speech, drowsiness, blurred vision, staggering gait and mental imbalance, with probable recovery after period of no exposure. Treatment is symptomatic.

SECTION 5: FIRE FIGHTING MEASURES

Flammable Limits in Air (% by volume):		
	Upper:	NDA
	Lower:	NDA
Flash Point:		
	Method Used:	NA
Autoignition Temperature:		
LEL/UEL:		
NFPA Hazard Classification:		
	Health:	3
	Flammability:	1
	Reactivity:	0
	Other:	NDA
Extinguishing Media:		
Dry chemical, foam, CO ₂ or water spray		
Special Fire Fighting Procedures:		
In the event of a fire, wear full protective clothing and NIOSH-approved SCBA with full facepiece operated in the positive pressure mode.		
Unusual Fire/Explosion Hazards:		
NDA		
Hazardous Combustion Products:		
Fire may produce poisonous or irritating gases.		

SECTION 6: ACCIDENTAL RELEASE MEASURES

EMERGENCY PHONE NUMBERS

Exposure Calls (PROSAR): 1-866-303-6952 or 1-651-632-8946 (International)

Spill Calls (CHEMTREC): 1-800-424-9300 or 1-703-527-3887

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as sawdust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802. Eliminate source of the spill. Wear protective clothing. Ventilate area with explosion-proof apparatus. Avoid breathing vapor. Dike and contain the spill with suitable absorbent (e.g. sand, silica). Transfer the liquid and the absorbent to separate containers for recovery or disposal. Scrub contaminated surface with detergent solution.

SECTION 7: HANDLING AND STORAGE

Keep in a tightly closed light-resistant container, stored in a cool, dry, ventilated area. Protect against physical damage. Wear special protective equipment (See Section 8) for maintenance break-in or where exposures may exceed established exposure levels. Wash hands, face, forearms and neck when exiting restricted areas. Shower, dispose of outer clothing, change to clean garments at the end of the day. Avoid cross-contamination of street clothes. Wash hands before eating and do not eat, drink or smoke in workplace. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Avoid breathing vapor and avoid contact with skin and eyes while handling. Wash all exposed skin with soap and water after handling. Launder the protective clothing before reuse. It is a violation of federal law to use this product in a manner inconsistent with its labeling. Read entire label. Use strictly in accordance with label precautionary statements and directions. Read and observe all precautions on product label.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

AIR CONCENTRATION LEVEL: Air concentrations of chloropicrin are measured with direct reading devices, such as Kitagawa tubes, certified for chloropicrin. Persons involved in the application of MIDAS® 50:50 or in reentry into treated fields must wear an air-purifying respirator when required by the restrictions given in the AGRICULTURAL USE REQUIREMENTS section of the MIDAS® 50:50 label.

Respiratory/Ventilation Requirements: Avoid breathing vapor. Ventilate the work area. A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. If the exposure limit is exceeded, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece SCBA.

Eye Protection: Do not get this material in your eyes. Eye contact can be avoided by wearing eye protection such as a full-face shield or safety glasses with side and brow protection. Do not wear goggles as they may trap vapors.

Skin Protection: Avoid skin contact with this material. Wear protective clothing and gloves (NIOSH recommends Viton™ (gloves suits), Responder™ suits, Tychem 1000™ suits).

User Safety Requirements:

- Do not wear jewelry, gloves, goggles, tight clothing or any rubber protective clothing/boots that can trap iodomethane or chloropicrin vapors against your skin. Iodomethane and chloropicrin vapors can be trapped inside clothing and cause skin injury.
- Remove all clothing that comes in contact with liquid material at once.
- Aerate all effected clothing thoroughly prior to washing with hot water and detergent.
- Discard any clothing or absorbent materials (e.g. leather), that have been drenched or heavily contaminated with this product. Do not reuse them.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear to light yellow
Odor:	Acrid odor
Physical State:	Liquid
pH:	NDA
Boiling Point:	NDA
Melting Point:	NDA
Freezing Point:	NDA

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MSDS Number: 00144

Issue Date: 11/15/07

NDA = No Data Available

NA = Not Applicable

Vapor Pressure:	NDA
Vapor Density:	NDA
Specific Gravity:	1.91 g/ml @ 22.5 °C
Evaporation Rate:	NDA
Solubility:	NDA
Percent Solids by Weight:	NDA
Percent Volatile:	100
Volatile Organic Compounds (VOC):	NDA
Molecular Weight:	NDA
Viscosity:	NDA

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability:	Stable at room temperature in sealed containers. Turns yellow, red, or brown on exposure to light, due to decomposition and liberation of free iodine. Decomposes at 270 °C (518 °F).
Hazardous Polymerization:	Will not occur
Flash Point:	NDA
Flammable Point:	NDA
Auto Ignition:	NDA
Incompatibility With Other Materials:	Strong oxidizers, powdered metals, reducing agents. Do not use application devices containing natural rubber, aluminum, magnesium or their alloys.
Hazardous Decomposition Products:	Burning may produce toxic iodine vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute (based on 25:75 formulation):

LD₅₀ (oral) rat = 120 mg/kg (male), 77 mg/kg (female)

LC₅₀ (inhalation; 4-hr vapor) rat = 34 ppm (0.22 mg/L)

LD₅₀ (dermal) rat = > 2,000 mg/kg

Skin sensitization: this material is considered to be a contact sensitizer in guinea pigs.

Skin irritation: corrosive

Eye irritation: corrosive

Developmental / Reproductive:

Iodomethane: Pregnant rabbits exposed to 20 ppm iodomethane daily throughout pregnancy experienced an increase in fetal loss mediated by excess iodine exposure to the fetus. The No effect level for this effect was 10 ppm.

Carcinogenicity:

Iodomethane: IARC determined that iodomethane is Group 3, not classifiable as to its carcinogenicity to humans based on *limited* evidence in experimental animals and *inadequate* evidence in humans. Iodomethane is not listed in the current U.S. National Toxicology Program Report on Carcinogens as a potential carcinogen, and not identified by OSHA as a potential carcinogen.

Chloropicrin: IARC has not identified chloropicrin as a potential carcinogen. Chloropicrin is not listed in the current U.S. National Toxicology Program Report on Carcinogens as a potential carcinogen, and not identified by OSHA as a potential carcinogen.

SECTION 12: ECOLOGICAL INFORMATION

Wildlife Toxicity:

Iodomethane Technical: LD₅₀ (oral) bobwhite quail = 57 mg/kg
 LC₅₀ (inhalation; 4-hr) bobwhite quail = 395 ppm (> 2 mg/L)
 LC₅₀ (static renewal; 96-hr) rainbow trout = 1.4 mg/L
 LC₅₀ (static renewal; 48-hr) *Daphnia* = 0.57 mg/L

Chloropicrin: LC₅₀ (96-hr) rainbow trout = 0.017 mg/L
 LC₅₀ (96-hr) bluegill sunfish = 0.105 mg/L

Environmental Fate in Soil and Water (based on Iodomethane Technical material):

Soil: Dissipation/degradation in tarped strawberry and tomato field soil is very rapid – half-life is 5 days. The aerobic metabolic half life in sandy loam is 2 hours.

Water: Under anaerobic aquatic conditions, the major route of dissipation is volatilization - half-life is 42 hours.

This material is not an ozone depletor (ODP = 0.0015).

SECTION 13: DISPOSAL CONSIDERATIONS

Check governmental regulations and local authorities for approved disposal of this material. Dispose in accordance with applicable laws and regulations.

SECTION 14: TRANSPORT INFORMATION

D.O.T. Shipping Name:	Toxic by inhalation liquid, corrosive, n.o.s.
Technical Shipping Name:	chloropicrin 50%, methyl iodide 50%
Packing Group:	I
D.O.T. Hazard Class:	6.1
U.N/N.A. Number:	UN3390
Product RQ (lbs):	200 lbs (methyl iodide)
D.O.T. Label:	6.1 (Poison inhalation hazard), 8
D.O.T. Placard:	6.1 (Poison inhalation hazard), marine pollutant marking required if in bulk or aboard vessel.
Marine Pollutant:	Yes (chloropicrin)
PIH :	Zone B
IATA :	Forbidden for transport by air
IMO:	
Shipping Description:	TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S., (CONTAINS 50% CHLOROPICRIN, 50% METHYL IODIDE)
IMO Label:	6.1, 8, marine pollutant
IMO Placard:	6.1, 8, marine pollutant
Packing Group:	I
UN Number:	UN3390
Stowage and segregation:	Category D. Clear of living quarters.
ARD/RID:	
Class:	6.1
Label:	6.1, 8
Placard:	6.1, 8

SECTION 15: REGULATORY INFORMATION

U.S Federal Regulations

FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act): All pesticides are governed under FIFRA. Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

CERCLA (Comprehensive Response Compensation, and Liability Act): Methyl iodide Reportable Quantity = 100 lbs.

EPCRA (Emergency Planning and Community Right-to-Know Act) Section 313: Yes (Chloropicrin and Methyl iodide)

OSHA (Occupational Safety and Health Administration): This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

RCRA (Resource Conservation and Recovery Act): U138 (Waste Code for Methyl iodide)

SARA Title III (SUPERFUND Amendments and Reauthorization Act):

Section 302 (EHS) TPQ: NONE

Section 304 (EHS) RQ: NONE

Section 311/312 CATEGORIES

1. Immediate (Acute) Health Effects; **YES**
2. Delayed (Chronic) Health Effect; **YES**
3. Fire Hazard; **NO**
4. Sudden Release of Pressure Hazard; **NO**
5. Reactivity Hazard; **NO**

TSCA (Toxic Substance Control Act): This product is exempt from TSCA Regulation under FIFRA Section 3 (2)(B)(ii) when used as a pesticide.

State Regulations: Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities.

California Proposition 65: "WARNING. This product contains a chemical known to the State of California to cause cancer." Methyl iodide is on the May 27, 2005 list of Chemicals Known to the State to Cause Cancer or Reproductive Toxicity.

International Regulations:

EEC Classification: NDA

Risk Phrases: NDA

Safety Phrases: NDA

SECTION 16: OTHER INFORMATION

Reason for issue:	Changes to Section 11
Prepared by:	Ashley R. Brown
Issue date:	11/15/07
Supersedes date:	10/18/07

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The information in this MSDS is based on data available to us as of the issue date given herein, and believed to be correct. Contact Arysta LifeScience North America Corporation at (919) 678-4900 to determine if additional data and information have become available since the issue date.

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