

**DuPont™ Lannate® LV Insecticide**

Version 2.0

Revision Date 05/28/2015

Ref. 130000028932

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	DuPont™ Lannate® LV Insecticide
Tradename/Synonym	:	DPX-X1179 Lannate LV B10035189 METHOMYL (S-methyl N-[(methylcarbamoyl)oxy]thioacetimidate)
Product Use	:	Insecticide
Restrictions on use	:	
		Do not use product for anything outside of the above specified uses
Manufacturer/Supplier	:	DuPont 4417 Lancaster Pike Wilmington, DE 19805, USA
Product Information	:	1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency	:	1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency	:	CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION**Product hazard category**

Flammable liquids	Category 3
Acute toxicity (Oral)	Category 3
Acute toxicity (Inhalation)	Category 4
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity - single exposure	Category 1
Specific target organ toxicity - single exposure	Category 3

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Label content

Pictogram

:



Signal word

: Danger

Hazardous warnings

: Flammable liquid and vapour.
Toxic if swallowed.
Causes serious eye damage.
Harmful if inhaled.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Causes damage to organs. (Central nervous system, Eyes)

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Hazardous prevention measures

: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ eye protection/ face protection.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing.
Rinse skin with water/ shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed: Call a POISON CENTER or doctor/ physician.
Immediately call a POISON CENTER/doctor.
Rinse mouth.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/ container to an approved waste disposal plant.

Other hazards

No applicable data available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
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Methomyl	16752-77-5	29 %
Cyclohexanone	108-94-1	29 - 34 %
Methanol	67-56-1	5 - 10 %
Other Ingredients		27 - 37 %

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

- General advice : ATROPINE IS AN ANTIDOTE - SEEK MEDICAL ATTENTION AT ONCE IN ALL CASES OF SUSPECTED POISONINGS. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
For medical emergencies involving this product, call toll free 1-800-441-3637. See Label for Additional Precautions and Directions for Use.
- Inhalation : Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
- Skin contact : Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- Eye contact : Hold eye 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. Call a poison control center or doctor for treatment advice.



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Ingestion	: Call a physician or poison control centre immediately. If swallowed, drink 1 or 2 glasses of water and try once or twice to induce vomiting by touching the back of throat with finger. Induce vomiting if person is conscious. Never give anything by mouth to an unconscious person.
Most important symptoms/effects, acute and delayed	: Poisoning produces effects associated with anticholinesterase activity which may include: Weakness Blurred vision Nausea Headache Abdominal pain discomfort in the chest constriction of pupils slow pulse sweating muscle twitching
Protection of first-aiders Notes to physician	: No applicable data available. : This product is an acetyl cholinesterase inhibiting carbamate insecticide. Morphine therapy is contra-indicated. Probable mucosal damage may contraindicate the use of gastric lavage. Administer atropine sulphate as an antidote until complete atropinisation (1.2-2.0 mg i.v. every 10-30 minutes). However, for exposure to methomyl in combination with organophosphorous insecticides, 2-PAM (1-2 g slow i.v.) may be used as required to supplement the atropine sulfate treatment as described above. Artificial respiration and/or oxygen may be necessary. Allow no further exposure to any cholinesterase inhibitor until full recovery is assured.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Water spray, Foam, Dry chemical, Carbon dioxide (CO2)
Unsuitable extinguishing media	: High volume water jet, (contamination risk)
Specific hazards	: Combustible Vapours may form explosive mixtures with air. Burning produces noxious and toxic fumes.
Special protective equipment for firefighters	: In the event of fire, wear self-contained breathing apparatus. Wear full protective equipment.

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Further information : Evacuate personnel and keep upwind of fire. Isolate area. Shut off source of fuel, if possible and without risk. If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers/tanks with water spray. Fight fire from maximum distance, use extreme caution as heat may decompose material and rupture containers. Do not allow run-off from fire fighting to enter drains or water courses. Control Runoff.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel) : Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Wear personal protective equipment. Keep people away from and upwind of spill/leak.

Environmental precautions : Prevent material from entering sewers, waterways, or low areas.

Spill Cleanup : Dike spill. Prevent further leakage or spillage. Remove all sources of ignition. Soak up with sawdust, sand, oil dry or other absorbent material. Dispose of in an approved container. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. If product enters crevices and can not be removed, treat with a sodium hydroxide solution and allow to stand 4 hours. Note: Sodium hydroxide is caustic and causes burns. Do not get in eyes, skin or clothing.

Accidental Release Measures : Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel) : Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Handling (Physical Aspects) : Combustible Keep away from heat and sources of ignition. Vapours may form

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explosive mixtures with air. Use only in well-ventilated areas.

- Dust explosion class : No applicable data available.
- Storage : Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in original container. Keep tightly closed in a dry, cool and well-ventilated place. Not for use or storage in or around the home. Keep out of the reach of children.
- Storage period : No applicable data available.
- Storage temperature : > 0 °C (> 32 °F)

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering controls : Use only with adequate ventilation. Refer to the product label for additional Engineering Controls.
- Personal protective equipment
- Respiratory protection : For exposures in enclosed areas: A respirator with an organic vapor-removing cartridge with a prefilter approved for pesticides (NIOSH approval number prefix TC-23C), or a canister approved for pesticides (NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P, or HE prefilter. For exposures outdoors: A NIOSH approved dust/mist filtering respirator with any R, P, or HE filter or with approval number prefix TC-21C.
- Skin and body protection : Applicators and other handlers exposed to the diluted material must wear:
Long sleeved shirt and long pants
Chemical-resistant gloves
Shoes plus socks
Protective eyewear
Mixers, loaders, applicators and other handlers who may be exposed to the concentrate must wear:
Long sleeved shirt and long pants
Chemical-resistant gloves
Chemical resistant footwear plus socks
Protective eyewear
Chemical resistant apron
PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:
Coveralls
Chemical-resistant gloves


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Shoes plus socks
Protective eyewear

Protective measures : Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Exposure Guidelines Exposure Limit Values

Methomyl TLV	(ACGIH)	0.2 mg/m3	TWA	Inhalable fraction and vapor.
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Cyclohexanone Permissible exposure limit:	(OSHA)	50 ppm	200 mg/m3	8 hr. TWA
TLV	(ACGIH)	20 ppm	TWA	
TLV	(ACGIH)	50 ppm	STEL	
AEL *	(DUPONT)	50 ppm	15 minute TWA, Skin	

Methanol Permissible exposure limit:	(OSHA)	200 ppm	260 mg/m3	8 hr. TWA
TLV	(ACGIH)	200 ppm	TWA	
TLV	(ACGIH)	250 ppm	STEL	
AEL *	(DUPONT)	200 ppm	8 & 12 hr. TWA, Skin	

Biological Exposure Indices

Cyclohexanone BEI	(ACGIH)	80 mg/l 1,2-Cyclohexanediol, with hydrolysis/Urine Sampling time: End of shift at end of work week.
BEI	(ACGIH)	8 mg/l Cyclohexanol, with hydrolysis/Urine Sampling time: End of shift.
Methanol BEI	(ACGIH)	15 mg/l Methanol/Urine Sampling time: End of shift.

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* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	: liquid
Form	: liquid
Color	: amber

Odor	: unpleasant, solvent-like
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Odor threshold	: No applicable data available.
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pH	: No applicable data available.
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Melting point/range	: No applicable data available.
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Boiling point/boiling range	: No applicable data available.
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Flash point	: 39 - 43 °C
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Evaporation rate	: No applicable data available.
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Flammability (solid, gas)	: No applicable data available.
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Upper explosion limit	: 75 vol%
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Lower explosion limit	: 5 vol%
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Vapor pressure	: 57 mm Hg at 25 °C (77 °F)
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Vapour density	: No applicable data available.
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Specific gravity (Relative density)	: 1.021 at 25 °C (77 °F)
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Bulk density	: 8.52 lb/gal
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Water solubility	: soluble
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Solubility(ies)	: No applicable data available.
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Partition coefficient: n-octanol/water : No applicable data available.

Auto-ignition temperature : No applicable data available.

Ignition temperature : 305 °C

Decomposition temperature : No applicable data available.

Viscosity, kinematic : No applicable data available.

Viscosity, dynamic : No applicable data available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No applicable data available.

Chemical stability : Stable at normal temperatures and storage conditions.

Possibility of hazardous reactions : Polymerization will not occur.

Conditions to avoid : No applicable data available.

Incompatible materials : None reasonably foreseeable.

Hazardous decomposition products : Decomposes with heat., Hazardous gases/vapors produced are toxic and/or noxious.

SECTION 11. TOXICOLOGICAL INFORMATION

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Inhalation 4 h LC50 : 1.1 mg/l , Rat

Dermal LD50 : > 2,000 mg/kg , Rat

Oral LD50 : 89 mg/kg , male, Rat

Oral LD50 : 49 mg/kg , female, Rat

Skin irritation : No skin irritation, Rabbit
Minimal effects that do not meet the threshold for classification.

Eye irritation : Risk of serious damage to eyes., Rabbit

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Methomyl	Sensitisation	: Did not cause sensitisation on laboratory animals., Guinea pig
	Carcinogenicity	: Did not show carcinogenic effects in animal experiments. Not classifiable as a human carcinogen.
	Mutagenicity	: Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Animal testing did not show any mutagenic effects.
	Reproductive toxicity	: Animal testing showed no reproductive toxicity. No toxicity to reproduction
	Teratogenicity	: Animal testing showed no developmental toxicity.
Cyclohexanone	Repeated dose toxicity	: Ingestion Rat - 90 d NOAEL: 143 mg/kg LOAEL: 407 mg/kg Method: OECD Test Guideline 408 No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification., Adverse body weight effects
	Carcinogenicity	: Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects.
	Mutagenicity	: Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
	Reproductive toxicity	: No toxicity to reproduction Evidence suggests the substance is not a reproductive toxin in animals. No effects on or via lactation
	Teratogenicity	: Animal testing showed no developmental toxicity.
Methanol	Carcinogenicity	: Not classifiable as a human carcinogen. Overall weight of evidence indicates that the substance is not carcinogenic.

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- Mutagenicity** : Animal testing did not show any mutagenic effects.
Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Overall weight of evidence indicates that the substance is not mutagenic.
Did not cause genetic damage in animals.
Genetic damage in cultured mammalian cells was observed in some laboratory tests but not in others.
Genetic damage in cultured bacterial cells was observed in some laboratory tests but not in others.
- Reproductive toxicity** : No toxicity to reproduction
Evidence suggests the substance is not a reproductive toxin in animals.
- Teratogenicity** : Evidence suggests the substance is not a developmental toxin in animals.

Carcinogenicity

The carcinogenicity classifications for this product and/or its ingredients have been determined according to HazCom 2012, Appendix A.6. The classifications may differ from those listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 12. ECOLOGICAL INFORMATION**Aquatic Toxicity****Methomyl**

- 96 h LC50 : *Lepomis macrochirus* (Bluegill sunfish) 0.63 mg/l
- 72 h ErC50 : *Desmodesmus subspicatus* (green algae) > 100 mg/l
- 48 h EC50 : *Daphnia magna* (Water flea) 0.017 mg/l
- 21 d : NOEC *Daphnia magna* (Water flea) 0.0016 mg/l

Cyclohexanone


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96 h LC50	:	Pimephales promelas (fathead minnow) 527 mg/l
72 h EC50	:	Desmodesmus subspicatus (green algae) > 100 mg/l Information given is based on data obtained from similar substances.
72 h NOEC	:	Desmodesmus subspicatus (green algae) > 100 mg/l Information given is based on data obtained from similar substances.
48 h EC50	:	Daphnia magna (Water flea) 800 mg/l

Methanol

96 h LC50	:	Pimephales promelas (fathead minnow) 28,100 mg/l
96 h LC50	:	Selenastrum capricornutum (green algae) 22,000 mg/l
48 h EC50	:	Daphnia (water flea) > 10,000 mg/l

Environmental Fate

Methanol

Biodegradability	:	Readily biodegradable
Bioaccumulation	:	Bioaccumulation is unlikely.

Additional ecological information	:	Environmental Hazards: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. Do not apply this product if bees are visiting the treatment area. See product label for additional application instructions relating to environmental precautions.
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SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods - Product	:	Do not contaminate water, food or feed by disposal. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of properly.
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Waste disposal methods - : Container Refilling and Disposal:
Container Refer to the product label for instructions.
Do not transport if this container is damaged or leaking.

In the event of a major spill, fire or other emergency, call 1-800-441-3637 day or night.

Contaminated packaging : No applicable data available.

SECTION 14. TRANSPORT INFORMATION

DOT	UN number	: 2991
	Proper shipping name	: Carbamate pesticides, liquid, toxic, flammable (Methomyl, Cyclohexanone)
	Class	: 6.1 (3)
	Packing group	: II
	Labelling No.	: 6.1 (3)
	Reportable Quantity	: 100 lbs Methomyl
IATA_C	UN number	: 2991
	Proper shipping name	: Carbamate pesticide, liquid, toxic, flammable (Methomyl, Cyclohexanone)
	Class	: 6.1 (3)
	Packing group	: II
	Labelling No.	: 6.1 (3)
IMDG	UN number	: 2991
	Proper shipping name	: CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE (Methomyl, Cyclohexanone)
	Class	: 6.1 (3)
	Packing group	: II
	Labelling No.	: 6.1 (3)
	Marine pollutant	: yes (Methomyl)

SECTION 15. REGULATORY INFORMATION

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Other regulations	: This Safety Data Sheet is for a pesticide product registered by the US Environmental Protection Agency (USEPA) and is therefore also subject to certain labeling requirements under US pesticide law (FIFRA). These requirements differ from the classification criteria and hazard information required by OSHA for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the mandatory hazard information required by USEPA on the pesticide label: DANGER! POISON! Fatal if swallowed. CONTAINS METHANOL! MAY CAUSE BLINDNESS. CORROSIVE - CAUSES IRREVERSIBLE EYE DAMAGE. Do not get in eyes or on clothing. Wear goggles, face shield or safety glasses. Harmful if absorbed through the skin or inhaled. Avoid breathing vapours or mist. Avoid contact with skin and clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. This product is toxic to fish. This product is toxic to: Aquatic invertebrates Mammals This product is toxic to bees exposed to direct treatment or residues on blooming crops or weeds.
SARA 313 Regulated Chemical(s)	: Methanol
PA Right to Know Regulated Chemical(s)	: Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances): Cyclohexanone, Methomyl, Methanol
Title III hazard classification	: Acute Health Hazard: Yes Chronic Health Hazard: No Fire: Yes Reactivity/Physical hazard: No Pressure: No
CERCLA Reportable Quantity	: 345 lbs Based on the percentage composition of this chemical in the product.: Methomyl
SARA Reportable Quantity	: 345 lbs Based on the percentage composition of this chemical in the product.: Methomyl
EPA Reg. No.	: 352-384 In the United States this product is regulated by the US Environmental Protection Agency (EPA) under the Federal Insecticide, Fungicide and

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Rodenticide Act (FIFRA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

California Prop. 65 : Chemicals known to the State of California to cause cancer, birth defects or any other harm: none known

SECTION 16. OTHER INFORMATION

NFPA

Health : 2

Flammability : 2

Reactivity/Physical hazard : 0

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Contact person : DuPont Crop Protection, Wilmington, DE, 19898, Phone: 1-888-638-7668

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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