



SDS Title: Melphalan Hydrochloride for Injection (Meitheal) Safety Data Sheet	SDS Number: SDS-000060	Page Number: Page 1 of 17
Function: Regulatory Affairs	Effective Date: September 09, 2022	Version number: 2.0

Section 1. Identification

- GHS product identifier** : Melphalan Hydrochloride for Injection (Meitheal)
Other means of identification : Not available.
Product type : Powder.

Relevant identified uses of the substance or mixture and uses advised against

- Product use** : Pharmaceuticals. (For intended use only.)
Observe technical data sheet/instructions for use.
Specific Treatments: Cancer.

- Area of application** : Professional applications.

- Supplier's details** : Meitheal Pharmaceuticals, Inc.
8700 W. Bryn Mawr, Suite 600S
Chicago, IL 60631

Telephone: 224-443-4617
www.meithealpharma.com

- e-mail address of person responsible for this SDS** : info@meithealpharma.com

- Emergency telephone number (with hours of operation)** : 844-824-8426 (Monday - Friday, 08:00 - 18:00 CST)

Section 2. Hazards identification

- OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

- Classification of the substance or mixture** :
- H300 COMBUSTIBLE DUSTS
 - H310 ACUTE TOXICITY (oral) - Category 1
 - H311 ACUTE TOXICITY (dermal) - Category 1
 - H330 ACUTE TOXICITY (inhalation) - Category 2
 - H315 SKIN IRRITATION - Category 2
 - H319 EYE IRRITATION - Category 2A
 - H340 GERM CELL MUTAGENICITY - Category 1
 - H350 CARCINOGENICITY - Category 1A
 - H361 TOXIC TO REPRODUCTION - Category 2
 - H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 10%

Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 33.5%

Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 33.5%

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Section 2. Hazards identification

GHS label elements

Hazard pictograms :



Signal word :

Danger

Hazard statements :

- H300 + H310 + H330 - Fatal if swallowed, in contact with skin or if inhaled.
- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.
- H335 - May cause respiratory irritation.
- H340 - May cause genetic defects.
- H350 - May cause cancer.
- H361 - Suspected of damaging fertility or the unborn child.
- May form combustible dust concentrations in air.

Precautionary statements

Prevention :

- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P280 - Wear protective gloves, protective clothing and eye or face protection.
- P284 - In case of inadequate ventilation wear respiratory protection.
- P271 - Use only outdoors or in a well-ventilated area.
- P262 - Do not get in eyes, on skin, or on clothing.
- P260 - Do not breathe dust or mist.
- P270 - Do not eat, drink or smoke when using this product.
- P264 - Wash thoroughly after handling.

Response :

- P308 + P313 - IF exposed or concerned: Get medical advice or attention.
- P304 + P340, P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.
- P301 + P310, P330 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth.
- P361 + P364 - Take off immediately all contaminated clothing and wash it before reuse.
- P302 + P310, P352 - IF ON SKIN: Immediately call a POISON CENTER or doctor. Wash with plenty of water.
- P332 + P313 - If skin irritation occurs: Get medical advice or attention.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 - If eye irritation persists: Get medical advice or attention.

Storage :

- P405 - Store locked up.
- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

Disposal :

- P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements :

- Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Prevent dust accumulation.

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Section 2. Hazards identification

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Other means of identification : Not available.

Ingredient name	Other names	%	CAS number
Alanine, 3-(p-(bis(2-chloroethyl)amino)phenyl)-, monohydrochloride, L-	-	≥50 - ≤75	3223-07-2
2-Pyrrolidinone, 1-ethenyl-, homopolymer	Povidone	≥20 - ≤30	9003-39-8
Hydrochloric acid	-	≤10	7647-01-0

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Gently wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Wash clothing before reuse. Clean shoes thoroughly before reuse.

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Section 4. First aid measures

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.
Inhalation : Fatal if inhaled. May cause respiratory irritation.
Skin contact : Fatal in contact with skin. Causes skin irritation.
Ingestion : Fatal if swallowed.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
 pain or irritation
 watering
 redness

Inhalation : Adverse symptoms may include the following:
 respiratory tract irritation
 coughing
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations

Skin contact : Adverse symptoms may include the following:
 irritation
 redness
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations

Ingestion : Adverse symptoms may include the following:
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

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Section 4. First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical powder.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : May form explosible dust-air mixture if dispersed.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds
Emits toxic fumes when heated to decomposition.

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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Section 6. Accidental release measures

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

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Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Alanine, 3-(p-(bis(2-chloroethyl)amino)phenyl)-, monohydrochloride, L- 2-Pyrrolidinone, 1-ethenyl-, homopolymer Hydrochloric acid	None. None. ACGIH TLV (United States, 1/2022). C: 2 ppm NIOSH REL (United States, 10/2020). CEIL: 5 ppm CEIL: 7 mg/m ³ OSHA PEL (United States, 5/2018). CEIL: 5 ppm CEIL: 7 mg/m ³

Appropriate engineering controls

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. If operating conditions cause high dust concentrations to be produced, use dust goggles.

Skin protection

Hand protection

- : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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Section 8. Exposure controls/personal protection

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Solid. [Lyophilized/Powder.]
- Color** : White./Pale yellow.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : 6.3 to 7 [Conc. (% w/w): 0.5%] [reconstitution solution]
- Melting point** : 180°C (356°F)
- Boiling point, initial boiling point, and boiling range** : Not available.
- Flash point** : Not applicable.
- Evaporation rate** : Not available.
- Flammability** : Not available.
- Lower and upper explosion limit/flammability limit** : Not applicable.
- Vapor pressure** : Not available.
- Relative vapor density** : Not applicable.
- Relative density** : Not available.
- Density** : Not available.
- Solubility(ies)** : Not available.
- Partition coefficient: n-octanol/water** : Not applicable.
- Auto-ignition temperature** : Not applicable.
- Decomposition temperature** : Not available.
- SADT** : Not available.
- Viscosity** : Not applicable.
- Flow time (ISO 2431)** : Not available.
- Particle characteristics**

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Section 9. Physical and chemical properties

Median particle size : Not available.

Other information

Physical/chemical properties comments : No additional information.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2-Pyrrolidinone, 1-ethenyl-, homopolymer	LD50 Oral	Rat	100 g/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Hydrochloric acid	Eyes - Mild irritant	Rabbit	-	0.5 minutes 5 mg	-

Sensitization

Not available.

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Section 11. Toxicological information

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
2-Pyrrolidinone, 1-ethenyl-, homopolymer	-	3	-
Hydrochloric acid	-	3	-

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Hydrochloric acid	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Fatal if inhaled. May cause respiratory irritation.
- Skin contact** : Fatal in contact with skin. Causes skin irritation.
- Ingestion** : Fatal if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

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Section 11. Toxicological information

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : May cause genetic defects.

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Melphalan Hydrochloride for Injection (Meitheal)	0.76	5	N/A	N/A	0.05
Alanine, 3-(p-(bis(2-chloroethyl)amino)phenyl)-, monohydrochloride, L-	0.5	5	N/A	N/A	0.05
2-Pyrrolidinone, 1-ethenyl-, homopolymer	100000	N/A	N/A	N/A	N/A

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Section 11. Toxicological information

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Hydrochloric acid	Acute LC50 240000 µg/l Marine water	Crustaceans - Carcinus maenas - Adult	48 hours
	Acute LC50 282 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours

Conclusion/Summary : Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.




Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN2811	UN2811	UN2811
UN proper shipping name	Toxic solids, organic, n.o.s. (Alanine, 3-(p-(bis(2-chloroethyl) amino)phenyl)-, monohydrochloride, L-)	TOXIC SOLID, ORGANIC, N.O. S. (Alanine, 3-(p-(bis(2-chloroethyl)amino)phenyl)-, monohydrochloride, L-)	Toxic solid, organic, n.o.s. (Alanine, 3-(p-(bis(2-chloroethyl) amino)phenyl)-, monohydrochloride, L-)
Transport hazard class(es)	6.1 	6.1 	6.1 
Packing group	I	I	I
Environmental hazards	No.	No.	No.

Additional information

DOT Classification

- : **Limited quantity** No.
- : **Packaging instruction** Exceptions: None. Non-bulk: 211. Bulk: 242.
- : **Quantity limitation** Passenger aircraft/rail: 5 kg. Cargo aircraft: 50 kg.
- : **Special provisions** IB7, T6, TP33

IMDG

- : **Emergency schedules** F-A, S-A
- : **Special provisions** 274

IATA

- : **Quantity limitation** Passenger and Cargo Aircraft: 5 kg. Packaging instructions: 666. Cargo Aircraft Only: 50 kg. Packaging instructions: 673. Limited Quantities - Passenger Aircraft: Forbidden. Packaging instructions: Forbidden.
- : **Special provisions** A3, A5

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.



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Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined
 United States inventory (TSCA 8b): Not determined.
 Clean Water Act (CWA) 311: Hydrochloric acid
 Clean Air Act (CAA) 112 regulated toxic substances: Hydrochloric acid

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Hydrochloric acid	≤10	Yes.	500	50.6	5000	506.5

SARA 304 RQ : 50000 lbs / 22700 kg

SARA 311/312

Classification : COMBUSTIBLE DUSTS
 ACUTE TOXICITY (oral) - Category 1
 ACUTE TOXICITY (dermal) - Category 1
 ACUTE TOXICITY (inhalation) - Category 2
 SKIN IRRITATION - Category 2
 EYE IRRITATION - Category 2A
 GERM CELL MUTAGENICITY - Category 1
 CARCINOGENICITY - Category 1A
 TOXIC TO REPRODUCTION - Category 2
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Composition/information on ingredients

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Section 15. Regulatory information

Name	%	Classification
Alanine, 3-(p-(bis(2-chloroethyl) amino)phenyl)-, monohydrochloride, L-	≥50 - ≤75	ACUTE TOXICITY (oral) - Category 1 ACUTE TOXICITY (dermal) - Category 1 ACUTE TOXICITY (inhalation) - Category 2 GERM CELL MUTAGENICITY - Category 1B CARCINOGENICITY - Category 1A
Hydrochloric acid	≤10	TOXIC TO REPRODUCTION - Category 2 SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 HNOC - Corrosive to digestive tract

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Hydrochloric acid	7647-01-0	≤10
Supplier notification	Hydrochloric acid	7647-01-0	≤10

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

- Massachusetts** : The following components are listed: HYDROGEN CHLORIDE
- New York** : The following components are listed: Hydrochloric acid
- New Jersey** : The following components are listed: HYDROGEN CHLORIDE
- Pennsylvania** : The following components are listed: HYDROCHLORIC ACID

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

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Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	4
Flammability		3
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



Procedure used to derive the classification

Classification	Justification
COMBUSTIBLE DUSTS ACUTE TOXICITY (oral) - Category 1 ACUTE TOXICITY (dermal) - Category 1 ACUTE TOXICITY (inhalation) - Category 2 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A GERM CELL MUTAGENICITY - Category 1 CARCINOGENICITY - Category 1A TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method

History

Date of issue/Date of revision	: 09/09/2022
Date of previous issue	: 04/06/2022
Version	: 2.0
Prepared by	: Sphera Solutions



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Section 16. Other information

Key to abbreviations

- : ATE = Acute Toxicity Estimate
- AMP = Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- N/A = Not available
- UN = United Nations

References

- : HCS (U.S.A.)- Hazard Communication Standard
- International transport regulations

✔ Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Melphalan Hydrochloride for Injection, 50mg/vial

Synonyms: 4-[Bis(2-chloroethyl)amino]-L-Phenylalanine hydrochloride

1.2. Intended Use of the Product

Use of the Substance/Mixture: Pharmaceutucial, use only as directed. Refer to product insert for product information and usage instructions. Medical Treatment: Alkylating agent (Anti-cancer).

Use of the Substance/Mixture: For professional use only.

1.3. Name, Address, and Telephone of the Responsible Party

Company

Meitheal Pharmaceuticals, Inc.

8700 W. Bryn Mawr, Suite 600S

Chicago, IL 60631

224-443-4617

www.meithealpharma.com

1.4. Emergency Telephone Number

Emergency Number : 844-824-8426

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Acute Tox. 1 (Oral) H300

Acute Tox. 1 (Dermal) H310

Acute Tox. 2 H330

(Inhalation:dust,mist)

Muta. 1B H340

Carc. 1A H350

Repr. 2 H361

Comb. Dust

Full text of hazard classes and H-statements : see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :



Signal Word (GHS-US) :

Danger

Hazard Statements (GHS-US) :

: May form combustible dust concentrations in air.
 H300+H310+H330 - Fatal if swallowed, in contact with skin or if inhaled.
 H340 - May cause genetic defects.
 H350 - May cause cancer.
 H361 - Suspected of damaging fertility or the unborn child.



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Safety Data Sheet

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- Precautionary Statements (GHS-US) :
- P201 - Obtain special instructions before use.
 - P202 - Do not handle until all safety precautions have been read and understood.
 - P260 - Do not breathe vapors, mist, or spray.
 - P262 - Do not get in eyes, on skin, or on clothing.
 - P264 - Wash hands, forearms, and other exposed areas 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, protective clothing, and eye protection.
 - P284 - [In case of inadequate ventilation] wear respiratory protection.
 - P301+P310 - If swallowed: Immediately call a poison center or doctor.
 - P302+P352 - If on skin: Wash with plenty of water.
 - P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.
 - P308+P313 - If exposed or concerned: Get medical advice/attention.
 - P310 - Immediately call a poison center or doctor.
 - P320 - Specific treatment is urgent (see section 4 on this SDS).
 - P322 - Specific treatment (see supplemental first aid instruction on this label).
 - P330 - Rinse mouth.
 - P361+P364 - Take off immediately all contaminated clothing and wash it before reuse.
 - P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
 - P405 - Store locked up.
 - P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%	GHS-US classification
Melphalan hydrochloride	(CAS-No.) 3223-07-2	73.66	Acute Tox. 1 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation:dust,mist), H330 Muta. 1B, H340 Carc. 1A, H350 Repr. 2, H361
2-Pyrrolidinone, 1-ethenyl-, homopolymer	(CAS-No.) 9003-39-8	26.31	Comb. Dust



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Hydrochloric acid	(CAS-No.) 7647-01-0	0.03	Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 2, H401
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Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: Using proper respiratory protection, move the exposed person to fresh air at once. Encourage exposed person to cough, spit out, and blow nose to remove dust. Immediately call a poison center, physician, or emergency medical service.

First-aid Measures After Skin Contact: Immediately remove contaminated clothing. Immediately drench affected area with water for at least 15 minutes. Immediately call a poison center or doctor/physician.

First-aid Measures After Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing. Immediately rinse with water for at least 15 minutes. Immediately call a poison center or doctor/physician.

First-aid Measures After Ingestion: Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Injuries: May cause cancer. Suspected of damaging fertility or the unborn child. May cause genetic defects. Fatal in contact with skin. Fatal if swallowed. Fatal if inhaled.

Symptoms/Injuries After Inhalation: Inhalation of this material can cause serious health effects in small amounts, leading to unconsciousness and death. Dust may be harmful or cause irritation.

Symptoms/Injuries After Skin Contact: This material is fatal through skin contact in small amounts. This material can be absorbed through the skin and eyes.

Symptoms/Injuries After Eye Contact: May cause slight irritation to eyes.

Symptoms/Injuries After Ingestion: This material is fatal through the oral route in small amounts. This material can cause serious health effects and death.

Chronic Symptoms: May cause cancer. Suspected of damaging fertility or the unborn child. May cause genetic defects.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, fog, carbon dioxide (CO₂), alcohol-resistant foam, or dry chemical.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Combustible Dust.

Explosion Hazard: Dust explosion hazard in air.

Reactivity: Hazardous reactions will not occur under normal conditions.



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5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Oxides of chlorine and carbon.

Other Information: Risk of dust explosion.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not handle until all safety precautions have been read and understood. Avoid breathing dust. Avoid generating dust. Remove ignition sources. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions. Ventilate area. Avoid generation of dust during clean-up of spills.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Contact competent authorities after a spill. Use explosion proof vacuum during cleanup, with appropriate filter. Do not mix with other materials. Vacuum clean-up is preferred. If sweeping is required use a dust suppressant. Use only non-sparking tools.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Accumulation and dispersion of dust with an ignition source can cause a combustible dust explosion. Keep dust levels to a minimum and follow applicable regulations.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Handle empty containers with care because they may still present a hazard. Do not get in eyes, on skin, or on clothing. Use only outdoors or in a well-ventilated area. Avoid creating or spreading dust. Keep away from heat, sparks, open flames, and hot surfaces. No smoking.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

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7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations. Avoid creating or spreading dust. Use explosion-proof electrical, ventilating, lighting equipment. Proper grounding procedures to avoid static electricity should be followed.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up/in a secure area.

Incompatible Materials: Strong acids, strong bases, strong oxidizers.

7.3. Specific End Use(s)

Pharmaceutical, use only as directed. Refer to product insert for product information and usage instructions.

Medical Treatment: Alkylating agent (Anti-cancer). For professional use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Hydrochloric acid (7647-01-0)		
USA ACGIH	ACGIH Ceiling (ppm)	2 ppm
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA NIOSH	NIOSH REL (ceiling) (mg/m ³)	7 mg/m ³
USA NIOSH	NIOSH REL (ceiling) (ppm)	5 ppm
USA IDLH	US IDLH (ppm)	50 ppm
USA OSHA	OSHA PEL (Ceiling) (mg/m ³)	7 mg/m ³
USA OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm

8.2. Exposure Controls

Appropriate Engineering Controls

- : Suitable eye/body wash equipment should be available in the vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Gas detectors should be used when toxic gases may be released. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment. Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits. Power equipment should be equipped with proper dust collection devices. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment.

Personal Protective Equipment

- : Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection. Face shield.



Materials for Protective Clothing
Hand Protection

- : Chemically resistant materials and fabrics.
- : Wear protective gloves.



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Eye and Face Protection	: Chemical safety goggles and face shield.
Skin and Body Protection	: Wear suitable protective clothing.
Respiratory Protection	: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.
Other Information	: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: White to off-white lyophilized cake or powder
Odor	: No data available
Odor Threshold	: No data available
pH	: No data available
Evaporation Rate	: No data available
Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: No data available
Flash Point	: No data available
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20°C	: No data available
Relative Density	: No data available
Solubility	: No data available
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available

9.2. Other Information

No additional information available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, and incompatible materials. Sparks, heat, open flame and other sources of ignition. Dust accumulation (to minimize explosion hazard).
- 10.5. Incompatible Materials:** Strong acids, strong bases, strong oxidizers.
- 10.6. Hazardous Decomposition Products:** Does not decompose.



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SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects

Acute Toxicity: Oral: Fatal if swallowed. Dermal: Fatal in contact with skin. Inhalation:dust,mist: Fatal if inhaled.

Melphalan Hydrochloride for Injection, 50mg/vial	
ATE (Oral)	0.68 mg/kg body weight
ATE (Dermal)	6.79 mg/kg body weight
ATE (Dust/Mist)	0.07 mg/l/4h
Melphalan hydrochloride (3223-07-2)	
ATE (Oral)	0.50 mg/kg body weight
ATE (Dermal)	5.00 mg/kg body weight
ATE (Dust/Mist)	0.05 mg/l/4h
2-Pyrrolidinone, 1-ethenyl-, homopolymer (9003-39-8)	
LD50 Oral Rat	100000 mg/kg
Hydrochloric acid (7647-01-0)	
LD50 Dermal Rabbit	> 5010 mg/kg

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: May cause genetic defects.

Carcinogenicity: May cause cancer.

Melphalan hydrochloride (3223-07-2)	
IARC group	1
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
2-Pyrrolidinone, 1-ethenyl-, homopolymer (9003-39-8)	
IARC group	3
Hydrochloric acid (7647-01-0)	
IARC group	3

Reproductive Toxicity: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Inhalation of this material can cause serious health effects in small amounts, leading to unconsciousness and death. Dust may be harmful or cause irritation.

Symptoms/Injuries After Skin Contact: This material is fatal through skin contact in small amounts. This material can be absorbed through the skin and eyes.

Symptoms/Injuries After Eye Contact: May cause slight irritation to eyes.

Symptoms/Injuries After Ingestion: This material is fatal through the oral route in small amounts. This material can cause serious health effects and death.

Chronic Symptoms: May cause cancer. Suspected of damaging fertility or the unborn child. May cause genetic defects.

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SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Not classified.

Hydrochloric acid (7647-01-0)

LC50 Fish 1	7.45 mg/l (Species: Oncorhynchus mykiss - Exposure time: 96h)
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12.2. Persistence and Degradability

Melphalan Hydrochloride for Injection, 50mg/vial

Persistence and Degradability	Not established.
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12.3. Bioaccumulative Potential

Melphalan Hydrochloride for Injection, 50mg/vial

Bioaccumulative Potential	Not established.
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12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste Treatment Methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT

Proper Shipping Name	: TOXIC SOLIDS, ORGANIC, N.O.S. Melphalan hydrochloride
Hazard Class	: 6.1
Identification Number	: UN2811
Label Codes	: 6.1
Packing Group	: I
ERG Number	: 154



14.2. In Accordance with IMDG

Proper Shipping Name	: TOXIC SOLID, ORGANIC, N.O.S. Melphalan hydrochloride
Hazard Class	: 6.1
Division	: 6.1
Identification Number	: UN2811
Packing Group	: I
Label Codes	: 6.1
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-A





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14.3. In Accordance with IATA

Proper Shipping Name : TOXIC SOLID, ORGANIC, N.O.S. Melphalan hydrochloride
 Packing Group : I
 Identification Number : UN2811
 Hazard Class : 6.1
 Label Codes : 6.1
 Division : 6.1
 ERG Code (IATA) : 6L



SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Melphalan Hydrochloride for Injection, 50mg/vial	
SARA Section 311/312 Hazard Classes	Health hazard - Carcinogenicity Health hazard - Reproductive toxicity Health hazard - Germ cell mutagenicity Health hazard - Acute toxicity (any route of exposure) Physical hazard - Combustible dust
2-Pyrrolidinone, 1-ethenyl-, homopolymer (9003-39-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under Chemical Data Reporting Rule (formerly the Inventory Update Reporting Rule), i.e, Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 711).
Hydrochloric acid (7647-01-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	5000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb (gas only)
SARA Section 313 - Emission Reporting	1 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

15.2. US State Regulations

Hydrochloric acid (7647-01-0)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision : 09/11/2020



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Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200

GHS Full Text Phrases:

Acute Tox. 1 (Dermal)	Acute toxicity (dermal) Category 1
Acute Tox. 1 (Oral)	Acute toxicity (oral) Category 1
Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Carc. 1A	Carcinogenicity Category 1A
Comb. Dust	Combustible Dust
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Met. Corr. 1	Corrosive to metals Category 1
Muta. 1B	Germ cell mutagenicity Category 1B
Repr. 2	Reproductive toxicity Category 2
Skin Corr. 1A	Skin corrosion/irritation Category 1A
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H290	May be corrosive to metals
H300	Fatal if swallowed
H310	Fatal in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H330	Fatal if inhaled
H335	May cause respiratory irritation
H340	May cause genetic defects
H350	May cause cancer
H361	Suspected of damaging fertility or the unborn child
H401	Toxic to aquatic life

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.