

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Pac-AUS/DP-003

Effective Date: 04th April 2020

PACLITAXEL INJECTION 6 MG/ML, 5 ML, 16.7 ML AND 50 ML

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Product Name: Paclitaxel Injection 6 mg/mL, 5 mL, 16.7 mL and 50 mL

Sponsor	Manufacturer-1	Manufacturer-2
Accord Healthcare Pty Ltd Level 24, 570 Bourke Street, Melbourne, VIC, 3000, Australia	Intas Pharmaceuticals Ltd. Plot No. 457, 458 Village-Matoda, Bavla Road, Ta. Sanand, Dist. Ahmedabad-382 210, Gujarat, India	Intas Pharmaceuticals Ltd. Plot No. 5, 6 and 7, Pharmed, Near Matoda Village, Ahmedabad-382 213, Gujarat, India

SECTION 2 – COMPOSITION, INFORMATION ON INGREDIENTS

Active: Paclitaxel.

Inactive: Kolliphor ELP (Polyoxyl 35 castor oil), dehydrated alcohol / Anhydrous Ethanol

Ingredient	CAS Number	EU EINECS/ELINCS List	GHS Classification	%
Paclitaxel	33069-62-4	Not Listed	Repr. 1B (H360FD) Mut. 2 (H341)	0.6
Ethyl alcohol (ethanol)	64-17-5	200-578-6	Flam. Liq. 2 (H225)	40-50
Castor oil, ethoxylated	61791-12-6	Not Listed	Not Listed	*

* Proprietary

Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety. In accordance with 29 CFR 1910.1200, the exact percentage composition of this mixture has been withheld as a trade secret.

For the full text of the CLP/GHS abbreviations mentioned in this Section, see Section 16

SECTION 3 - HAZARDS IDENTIFICATION

Classification of the Substance or Mixture:

GHS – Classification:

Germ Cell Mutagenicity : Category 2
Reproductive Toxicity : Category 1B
Flammable liquids : Category 2

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Pac-AUS/DP-003

Effective Date: 04th April 2020

Label Elements:

Signal Word: Danger

Hazard Statements:

- H225 - Highly flammable liquid and vapor
- H360FD - May damage fertility. May damage the unborn child
- H341 - Suspected of causing genetic defects

Precautionary Statements:

- P201 - Obtain special instructions before use
- P210 - Keep away from heat/sparks/open flames/hot surfaces.
 - No smoking
- P233 - Keep container tightly closed
- P260 - Do not breathe dust/fume/gas/mist/vapors/spray
- P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
- P308 + P313 - IF exposed or concerned: Get medical attention/advice
- P403 + P235 - Store in a well-ventilated place. Keep cool
- P405 - Store locked up
- P501 - Dispose of contents/container in accordance with all local and national regulations



Other Hazards: No data available

Note: This document has been prepared in accordance with standards for workplace safety, which requires the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warning included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

SECTION 4 – EMERGENCY AND FIRST AID MEASURES

Description of First Aid Measures:

Eye Contact: Flush with water while holding eyelids open for at least 15 minutes. Seek medical attention immediately.

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Pac-AUS/DP-003

Effective Date: 04th April 2020

Skin Contact: Remove contaminated clothing. Flush area with large amounts of water. Use soap. Seek medical attention.

Ingestion: Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.

Inhalation: Remove to fresh air and keep patient at rest. Seek medical attention immediately.

Most Important Symptoms and Effects, Both Acute and Delayed Exposure: For information on potential signs and symptoms of exposure, See Section 3 – Hazards Identification and/or Section 11 - Toxicological Information.

Medical Conditions Aggravated by Exposure: None known

Indication of the Immediate Medical Attention and Special Treatment Needed:

Notes to Physician: None

SECTION 5 - FIRE FIGHTING MEASURES

Extinguishing Media: Extinguish fires with CO₂, extinguishing powder, foam, or water.

Special Hazards Arising from the Substance or Mixture:

Hazardous Combustion Products: Formation of toxic gases is possible during heating or fire.

Fire / Explosion Hazards: Flammable liquid and vapor Fine particles (such as mists) may fuel fires/explosions.

Advice for Fire-Fighters: During all firefighting activities, wear appropriate protective equipment, including self-contained breathing apparatus.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

Environmental Precautions: Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Pac-AUS/DP-003

Effective Date: 04th April 2020

Methods and Material for Containment and Cleaning Up:

Measures for Cleaning / Collecting: Contain the source of spill if it is safe to do so. Collect spill with absorbent material. Clean spill area thoroughly.

Additional Consideration for Large Spills: Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Clean up operations should only be undertaken by trained personnel.

SECTION 7 - HANDLING AND STORAGE

Precautions for Safe Handling: Flammable liquid and vapor- keep away from ignition sources and clean up spills promptly. Eliminate possible ignition sources (e.g., heat, sparks, flame, impact, friction, electricity), and follow appropriate grounding and bonding procedures. Avoid contact with eyes, skin, and clothing. Use appropriate personal protective equipment. Wash thoroughly after handling. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. When handling, use appropriate personal protective equipment (see Section 8). Wash thoroughly after handling. Wash hands and any exposed skin after removal of PPE. Releases to the environment should be avoided. Review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.

Conditions for Safe Storage, Including any Incompatibilities:

Storage Conditions: Store as directed by product packaging.

Specific end use(s): Pharmaceutical product Antineoplastic

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Refer to available public information for specific member state Occupational Exposure Limits.

Ethyl alcohol (ethanol):

ACGIH Threshold Limit Value (STEL)	: 1000 ppm
Australia TWA	: 1000 ppm 1880 mg/m ³
Austria OEL – MAKs	: 1000 ppm 1900 mg/m ³
Belgium OEL - TWA	: 1000 ppm

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Pac-AUS/DP-003

Effective Date: 04th April 2020

	1907 mg/m ³
Bulgaria OEL - TWA	: 1000 mg/m ³
Czech Republic OEL - TWA	: 1000 mg/m ³
Denmark OEL – TWA	: 1000 ppm
	1900 mg/m ³
Estonia OEL - TWA	: 500 ppm
	1000 mg/m ³
Finland OEL – TWA	: 1000 ppm
	1900 mg/m ³
France OEL - TWA	: 1000 ppm
	1900 mg/m ³
Germany - TRGS 900 – TWAs	: 500 ppm
	960 mg/m ³
Germany (DFG) – MAK	: 500 ppm
	960 mg/m ³
Greece OEL – TWA	: 1000 ppm
	1900 mg/m ³
Hungary OEL – TWA	: 1900 mg/m ³
Latvia OEL – TWA	: 1000 mg/m ³
Lithuania OEL – TWA	: 500 ppm
	1000 mg/m ³
Netherlands OEL – TWA	: 260 mg/m ³
OSHA - Final PELs - TWAs:	: 1000 ppm
	1900 mg/m ³
Poland OEL – TWA	: 1900 mg/m ³
Portugal OEL – TWA	: 1000 ppm
Romania OEL – TWA	: 1000 ppm
	1900 mg/m ³
Russia OEL – TWA	: 1000 mg/m ³
Slovakia OEL – TWA	: 500 ppm
	960 mg/m ³
Slovenia OEL – TWA	: 1000 ppm
	1900 mg/m ³
Sweden OEL - TWAs	: 500 ppm
	1000 mg/m ³
Switzerland OEL –TWAs	: 500 ppm
	960 mg/m ³
Vietnam OEL - TWAs	: 1000 mg/m ³

The purpose of the Occupational Exposure Band (OEB) classification system is to separate substances into different Hazard categories when the available data are sufficient to do so, but inadequate to establish an Occupational Exposure Limit (OEL). The OEB given is based upon an analysis of all currently available data; as such, this value may be subject to revision when new information becomes available.

Paclitaxel:

Occupational Exposure Band (OEB): OEB 4 (control exposure to the range of 1µg/m³ to <10µg/m³)

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Pac-AUS/DP-003

Effective Date: 04th April 2020

Exposure Controls:

Engineering Controls: Engineering controls should be used as the primary means to control exposures. General room ventilation is adequate unless the process generates dust, mist or fumes. Keep airborne contamination levels below the exposure limits listed above in this section.

Personal Protective Equipment: Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE).

Hands: Impervious gloves (e.g. Nitrile, etc.) are recommended if skin contact with drug product is possible and for bulk processing operations. (Protective gloves must meet the standards in accordance with EN374, ASTM F1001 or international equivalent.)

Eyes: Wear safety glasses or goggles if eye contact is possible. (Eye protection must meet the standards in accordance with EN166, ANSI Z87.1 or international equivalent.)

Skin: Impervious protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations. (Protective clothing must meet the standards in accordance with EN13982, ANSI 103 or international equivalent.)

Respiratory protection: Under normal conditions of use, if the applicable Occupational Exposure Band (OEB) is exceeded, wear an appropriate respirator with a protection factor sufficient to control exposures to below the OEB (e.g. particulate respirator with a full mask, P3 filter). (Respirators must meet the standards in accordance with EN136, EN143, ASTM F2704-10 or international equivalent.)

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State	: Solution
Color	: Clear
Odor	: No data available
Odor Threshold	: No data available.
Molecular Formula	: Mixture
Molecular Weight	: Mixture
Solvent Solubility	: No data available
Water Solubility	: No data available
pH	: No data available.
Melting/Freezing Point (°C)	: No data available
Boiling Point (°C)	: 78

Partition Coefficient:

Paclitaxel:

Method	pH	Endpoint	Value
Predicted	7.4	Log D	3.95

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Pac-AUS/DP-003

Effective Date: 04th April 2020

Castor oil, ethoxylated : No data available

Ethyl alcohol (ethanol) : No data available

Decomposition : No data available

Temperature (°C)

Evaporation Rate (Gram/s) : No data available

Vapor Pressure (kPa) : No data available

Vapor Density (g/ml) : No data available

Relative Density : No data available

Viscosity : No data available

Flammability:

Autoignition Temperature (Solid) (°C) : No data available

Flammability (Solids) : No data available

Flash Point (Liquid) (°C) : 14.87

Upper Explosive Limits (Liquid) (% by Vol.) : No data available

Lower Explosive Limits (Liquid) (% by Vol.) : No data available

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: No data available

Chemical Stability: Stable under normal conditions of use.

Possibility of Hazardous Reactions

Oxidizing Properties: No data available

Conditions to Avoid: As a precautionary measure, keep away from heat sources and electrostatic discharge. Fine particles (such as mists) may fuel fires/explosions.

Incompatible Materials: As a precautionary measure, keep away from strong oxidizers

Hazardous Decomposition Products: No data available

SECTION 11 - TOXICOLOGY INFORMATION

Information on Toxicological Effects:

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Pac-AUS/DP-003

Effective Date: 04th April 2020

General Information: The information included in this section describes the potential hazards of the individual ingredients.

Long Term: Repeat-dose studies in animals have shown a potential to cause adverse effects on blood and blood forming organs.

Known Clinical Effects: Adverse effects associated with therapeutic use include decrease in blood pressure (hypotension), neutropenia, dizziness, nausea, vomiting, loss of hair, infection, blood cell changes, flushing, skin rash, and inflammation of the mouth (stomatitis).

Acute Toxicity:

Paclitaxel:

Species	Route	End Point	Dose
Rat	IP	LD50	32.5 mg/kg
Mouse	IP	LD50	128mg/kg
Mouse	Intravenous	LD50	12mg/kg

Castor oil, ethoxylated:

Species	Route	End Point	Dose
Rat	Oral	LC50	> 20g/kg

Ethyl alcohol (ethanol):

Species	Route	End Point	Dose
Mouse	Oral	LD50	3450 mg/kg
Rat	Oral	LD50	7060mg/kg
Rat	Inhalation	LC50 10h	20,000ppm

Acute Toxicity Comments: A greater than symbol (>) indicates that the toxicity endpoint being tested was not achievable at the highest dose used in the test.

Irritation / Sensitization:

Castor oil, ethoxylated:

Study Type	Species	Severity
Skin Irritation	Rabbit	Non-irritating
Eye Irritation	Rabbit	Non-irritating

Ethyl alcohol (ethanol):

Study Type	Species	Severity
Eye Irritation	Rabbit	Severe
Skin Irritation	Rabbit	Mild

Repeated Dose Toxicity:

Paclitaxel:

Duration	Species	Route	Dose	End Point	Target Organ
6 Month(s)	Rat	Intravenous	1 mg/kg/day	NOAEL	Blood forming organs, Bone marrow, Thymus, Spleen

Reproduction & Development Toxicity:

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Pac-AUS/DP-003

Effective Date: 04th April 2020

Paclitaxel:

Duration	Species	Route	Dose	End Point	Effect(s)
Fertility and Embryonic Development	Rat	Intravenous	1 mg/kg/day	NOAEL	Fetotoxicity, Maternal toxicity, Paternal Toxicity
Embryo / Fetal Development	Rat	Intravenous	0.3 mg/kg/day	NOAEL	Developmental toxicity
Embryo / Fetal Development	Rabbit	Intravenous	1 mg/kg/day	NOAEL	Fetotoxicity, Maternal Toxicity
Prenatal & Postnatal Development	Rat	Intravenous	0.3 mg/kg/day	NOAEL	Neonatal toxicity, Maternal Toxicity

Genetic Toxicity:

Paclitaxel:

Study Type	Cell Type/Organism	Result
<i>In Vitro</i> Bacterial Mutagenicity (Ames)	<i>Salmonella</i> , <i>E. coli</i>	Negative
<i>In Vitro</i> HGPRT Forward Gene Mutation Assay	Chinese Hamster Ovary (CHO) cells	Negative
<i>In Vitro</i> Chromosome Aberration	Not specified	Positive
<i>In Vivo</i> Micronucleus	Mouse	Positive

Carcinogen Status: None of the components of this formulation are listed as a carcinogen by IARC, NTP or OSHA

Ethyl alcohol (ethanol):

IARC: Group 1 (Carcinogenic to Humans)

SECTION 12 - ENVIRONMENTAL IMPACT INFORMATION

Environmental Overview: Environmental properties have not been thoroughly investigated. Releases to the environment should be avoided.

Toxicity:

Aquatic Toxicity:

Paclitaxel:

Species	Method	End Point	Duration	Result
<i>Daphnia magna</i> (Water Flea)	N/A	EC50	N/A	> 0.74 ppm

Ethyl alcohol (ethanol)

Species	End Point	Result
<i>Oncorhynchus mykiss</i> (Rainbow Trout)	LC50/96h	12,900-15,300 mg/L

Bacterial Inhibition:

Paclitaxel:

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Pac-AUS/DP-003

Effective Date: 04th April 2020

Inoculum	Method	End Point	Result
Activated sludge	N/A	EC50	> 1000 ppm

Persistence and Degradability: No data available

Bio-accumulative Potential:

Partition Coefficient:

Paclitaxel:

Method	pH	Endpoint	Value
Predicted	7.4	Log D	3.95

Mobility in Soil: No data available

SECTION 13 - DISPOSAL INFORMATION

Waste Treatment Methods: Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

SECTION 14 - TRANSPORTATION INFORMATION

The following refers to all modes of transportation unless specified below.

This material is regulated for transportation as a hazardous material/dangerous good.

UN number: UN 1170

UN proper shipping name: Ethanol solution

Transport hazard class(es): 3

Packing group: II

Flash Point (°C): 14.87

IMDG Flash Point (°C): 14.87

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Pac-AUS/DP-003

Effective Date: 04th April 2020

SECTION 15 - REGULATORY INFORMATION

Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture:

Paclitaxel:

CERCLA/SARA 313 Emission reporting : Not Listed
California Proposition 65 : developmental toxicity 8/26/1997
female reproductive toxicity 8/26/97
Standard for the Uniform Scheduling for Drugs and Poisons : Schedule 4
EU EINECS/ELINCS List : Not Listed

Ethyl alcohol (ethanol):

CERCLA/SARA 313 Emission reporting : Not Listed
California Proposition 65 : carcinogen 4/29/2011 in alcoholic beverages
developmental toxicity 10/1/1987 in alcoholic beverages

Inventory - United States TSCA - Sect. 8(b) : Present

Australia (AICS) : Present
EU EINECS/ELINCS List : 200-578-6

Castor oil, ethoxylated:

CERCLA/SARA 313 Emission reporting : Not Listed
California Proposition 65 : Not Listed
Inventory - United States TSCA - Sect. 8(b) : Present
Australia (AICS) : Present
EU EINECS/ELINCS List : Not Listed

SECTION 16 - OTHER DATA

Text of CLP/GHS Classification abbreviations mentioned in Section 3:

Flammable liquids-Cat.2; H225 - Highly flammable liquid and vapor
Reproductive toxicity-Cat.1B; H360FD - May damage fertility. May damage the unborn child.

Germ cell mutagenicity-Cat.2; H341 - Suspected of causing genetic defects

Data Sources: Publicly available toxicity information. Safety data sheets for individual ingredients.

MATERIAL SAFETY DATA SHEET

Version No: MSDS/Pac-AUS/DP-003

Effective Date: 04th April 2020

The information in this document is believed to be correct as of the date issued. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THIS INFORMATION, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.