



SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/ UNDERTAKING

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Product identifier	Fluphenazine Decanoate Injection, USP
Synonyms	Decanoic acid, 2-(4-(3-(2-(trifluoromethyl)phenothiazin-10-yl)propyl)-1-piperazinyl)ethylester, Dapotum D, Lyogen, SQ 10,733, Flufenazine decanoate, Fluorophenazine decanoate, Fluphenazine decanoate, Modecate, Moditen depot, Prolixin decanoate
Trade names	None identified
Chemical family	Decanoate ester of a trifluoromethyl phenothiazine derivative
Relevant identified uses of the substance or mixture and uses advised against	Bulk formulated pharmaceutical mixture/Formulated pharmaceutical product packaged in final form for patient use; indicated for the maintenance treatment of schizophrenia or other chronic psychoses
Note	The physical, chemical, toxicological and ecological properties of this product/mixture has not been fully characterized. This SDS will be revisited as more data become available.
Issue Date	7 May 2014

SECTION 2 - HAZARDS IDENTIFICATION

Classification of the substance or mixture	Drugs in the finished state and intended for the final user are not subject to labeling in the US, EU or Canada. Please consult the prescribing/packaging information. The classification and labelling listed below is for bulk fluphenazine decanoate for Injection
Regulation (EC) 1272/2008 [GHS]	Acute Toxicity (Oral) Category 4. Specific Target Organ Toxicity (single exposure) - Category 3.
Directive 67/548/EEC or 1999/45/EC	Xn - R22

SECTION 2 - HAZARDS IDENTIFICATION ...continued

Label elements

CLP/GHS hazard pictogram



CLP/GHS signal word

Warning

CLP/GHS hazard statements

H336 - May cause drowsiness or dizziness. H302 - Harmful if swallowed.

CLP/GHS precautionary statements

P261 - Avoid breathing mist/spray P271 - Use only outdoors or in a well-ventilated area. P312 - Call a Poison Center or doctor/physician if you feel unwell. P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling. P403 + P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up. P501 - Dispose of contents/container to location in accordance with local/regional/national/international regulations.

EU symbol/indication of danger



Xn - Harmful

Risk (R) Phrase(s)

R22 - Harmful if swallowed.

Safety Advice

S36/37 - Wear suitable protective clothing and gloves.

Other hazards

Fluphenazine decanoate is a long-acting antipsychotic drug of the phenothiazine family. It is believed to act by blocking dopamine receptors in the brain.

Commonly reported adverse effects include extrapyramidal disorders, such as pseudoparkinsonism (e.g. tremor, rigidity, and hypersalivation), spastic muscle contractions and/or eyeball movement, restlessness, and involuntary movements. Although fluphenazine decanoate has been reported to be less sedating than other phenothiazine drugs, it may cause drowsiness, lethargy, and hypotension.

Phenothiazine compounds have been associated with electrocardiographic changes, elevations in prolactin levels (a hormone involved in pregnancy), changes in libido/sexual performance in women and men, some allergic skin reactions (e.g. contact dermatitis, itchiness), inflammation, and photosensitivity. Abrupt cessation of these drugs has led to gastrointestinal (GI) disturbances (e.g. GI inflammation, nausea, and vomiting), dizziness, and shaking.

SECTION 2 - HAZARDS IDENTIFICATION ...continued

US Signal word	Caution
US Hazard overview	Contains fluphenazine decanoate, a long-acting antipsychotic drug. May be harmful if swallowed. May cause dizziness and drowsiness.
Note	This mixture is classified as dangerous/hazardous according to directive 1999/45/EC, Regulation (EC) No 1272/2008 (EU CLP) and applicable US regulations. The EU symbol/indicator of danger, R Phrases and Safety Advice are based on Directive 67/548/EEC or 1999/45/EC. The GHS classifications are based on Regulation (EC) 1272/2008. See Section 16 for full text of EU and GHS classifications.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS #</u>	<u>EINECS/ ELINCS#</u>	<u>Amount</u>	<u>EU Classification</u>	<u>GHS Classification</u>
Fluphenazine decanoate	5002-47-1	225-672-4	1-3%	Harmful - Xn: R20	ATO2: H300; STOT-S3: H336
Benzyl alcohol	100-51-6	202-859-9	1-3%	Harmful - Xn: R20/22	ATO4: H302; ATI4: H332

Note	The ingredient(s) listed above are considered dangerous/hazardous. The remaining components are non-dangerous/not hazardous and/or present at amounts below reportable limits. See Section 16 for full text of EU and GHS classifications. The EU classification is based on Directive 67/548/EEC and the GHS classification is based on Regulation (EC) 1272/2008.
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SECTION 4 - FIRST AID MEASURES

Description of first aid measures

Immediate Medical Attention Needed	Yes
Eye Contact	If easy to do, remove contact lenses, if worn. Immediately flush eyes with copious quantities of water for at least 15 minutes. If irritation occurs or persists, notify medical personnel and supervisor.
Skin Contact	Wash exposed area with soap and water and remove contaminated clothing/shoes. If irritation occurs or persists, notify medical personnel and supervisor.
Inhalation	Immediately move exposed subject to fresh air. If not breathing, give artificial respiration. If breathing is labored, administer oxygen. Immediately notify medical personnel and supervisor.
Ingestion	Do not induce vomiting unless directed by medical personnel. Do not give anything to drink unless directed by medical personnel. Never give anything by mouth to an unconscious person. Notify medical personnel and supervisor.

SECTION 4 - FIRST AID MEASURES ...continued

Protection of first aid responders	See Section 8 for Exposure Controls/Personal Protection recommendations.
Most important symptoms and effects, both acute and delayed	See Sections 2 and 11.
Indication of immediate medical attention and special treatment needed, if necessary	Contains fluphenazine decanoate, a long-acting antipsychotic drug. Medical conditions aggravated by exposure: Liver disorders, subcortical brain damage, severe depression, hypnotic dependency, and hypersensitivity. Treat symptomatically and supportively. If accidental exposure occurs to an individual who is also taking one or more concomitant medications, consult the respective package or prescribing information for potential drug interactions.

SECTION 5 - FIREFIGHTING MEASURES

Extinguishing media	Use water spray (fog), foam, dry powder, or carbon dioxide, as appropriate for surrounding fire and materials.
Specific hazards arising from the substance or mixture	No information identified. May emit toxic fumes of carbon monoxide, carbon dioxide, oxides of nitrogen, and any fluorine-containing compounds
Flammability/Explosivity	No specific information identified for the product/mixture. Contains residual amounts of flammable materials. Keep away from heat, sparks and flame.
Advice for firefighters	Wear full protective clothing and a self-contained breathing apparatus with a full facepiece operated in the pressure demand or other positive pressure mode. Decontaminate all equipment after use.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Remove ignition sources. If product is released or spilled, take proper precautions to minimize exposure by using appropriate personal protective equipment (see Section 8). Area should be adequately ventilated. Do not breathe mist/spray.
Environmental precautions	Do not empty into drains. Avoid release to the environment.
Methods and material for containment and cleaning up	If vials are crushed or broken, DO NOT CAUSE MATERIAL TO BECOME AIRBORNE. For small spills, soak up material with absorbent, e.g., paper towels. For large spills, cordon off spill area and minimize the spreading of spilled material. Soak up material with absorbent. Collect spilled material, absorbent, and rinse water into suitable containers for proper disposal in accordance with applicable waste disposal regulations (see Section 13). Decontaminate the area twice with an appropriate solvent (see Section 9).
Reference to other sections	See Sections 8 and 13 for more information.

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling	If vials are opened, crushed or broken, follow recommendations for handling bulk formulated pharmaceutical agents (i.e., use of engineering controls and/or other personal protective equipment if needed). Wash thoroughly after handling.
Conditions for safe storage including any incompatibilities	Store at controlled room temperature 20 to 25° C. Protect from light. Retain carton until time of use.
Specific end use(s)	No information identified.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Note Dispose of broken vials in a sharps container.

**Control Parameters/
Occupational Exposure
Limit Values**

<u>Compound</u>	<u>Issuer</u>	<u>Type</u>	<u>OEL</u>
Fluphenazine decanoate	JHP	Occupational Exposure Category/ Band	3 in a 4-band system. Consult manufacturer for more information.
Benzyl alcohol	AIHA	TWA-8 HR	10 ppm
	Bulgaria, Latvia	TWA-8 HR	5 mg/m ³
	Czech Republic	TWA-8 HR	40 mg/m ³
	Czech Republic	Ceiling	80 mg/m ³
	Lithuania	TWA-8 HR	5 mg/m ³ (skin)
	Poland	TWA-8 HR	240 mg/m ³

Exposure/Engineering controls If handling bulk product or if vials are opened/crushed/broken: Control exposures to below the OEL of the active pharmaceutical ingredient. Otherwise, selection and use of containment devices and personal protective equipment should be based on a risk assessment of exposure potential. Open handling should not be performed when handling potent substances, or substances of unknown toxicity. Material should be handled inside a closed process, ventilated enclosure, isolator or device of equivalent or better control that is suitable for dusts and/or aerosols.

Respiratory protection If handling bulk product or if vials are opened/crushed/broken: Choice of respiratory protection should be appropriate to the task and the level of existing engineering controls. For routine handling tasks, an approved and properly worn powered air-purifying respirator equipped with appropriate HEPA filters or combination filters should provide ancillary protection based on the known or foreseeable limitations of existing engineering controls. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, when exposure levels are not known, or in any other circumstances where air purifying respirators may not provide adequate protection.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION ...continued

Hand protection	Wear nitrile or other impervious gloves if skin contact is possible. Double gloves should be considered. When the material is dissolved or suspended in an organic solvent, wear gloves that provide protection against the solvent.
Skin protection	Wear appropriate gloves, lab coat, or other protective overgarment if skin contact is likely. Base the choice of skin protection on the job activity, potential for skin contact and solvents and reagents in use.
Eye/face protection	Wear safety glasses with side shields, chemical splash goggles, or full face shield, if necessary. Base the choice of protection on the job activity and potential for contact with eyes or face. An emergency eye wash station should be available.
Environmental Exposure Controls	Avoid release to the environment and operate within closed systems wherever practicable. Air and liquid emissions should be directed to appropriate pollution control devices. In case of spill, do not release to drains. Implement appropriate and effective emergency response procedures to prevent release or spread of contamination and to prevent inadvertent contact by personnel.
Other protective measures	Wash hands in the event of contact with this mixture, especially before eating, drinking or smoking. Protective equipment is not to be worn outside the work area (e.g., in common areas or out-of-doors).

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear, pale yellow liquid
Color	Clear, pale-yellow
Odor	Odorless
Odor threshold	No information identified.
pH	4.8-5.2
Melting point/ freezing point	No information identified.
Initial boiling point and boiling range	No information identified.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	No information identified.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ...continued

Upper/lower flammability or explosive limits	No information identified.
Vapor pressure	No information identified
Vapor density	No information identified.
Relative density	No information identified.
Water solubility	Insoluble in water
Solvent solubility	No information identified.
Partition coefficient (n-octanol/water)	No information identified.
Auto-ignition temperature	No information identified.
Decomposition temperature	No information identified.
Viscosity	No information identified.
Explosive properties	No information identified.
Oxidizing properties	No information identified.
Other information	
Molecular weight	591.8 g/mol
Molecular formula	C ₃₂ H ₄₄ F ₃ N ₃ O ₂ S

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	No information identified.
Chemical stability	Light sensitive
Possibility of hazardous reactions	No information identified.
Conditions to avoid	Avoid extreme temperatures.
Incompatible materials	No information identified.
Hazardous decomposition products	No information identified.

SECTION 11 - TOXICOLOGICAL INFORMATION

Note No toxicology data for the product/mixture were identified. The following data describe the active ingredient and/or the individual ingredients where applicable.

Information on toxicological effects

Route of entry May be absorbed by inhalation, skin contact and ingestion.

Acute toxicity

<u>Compound</u>	<u>Type</u>	<u>Route</u>	<u>Species</u>	<u>Dose</u>
Fluphenazine decanoate	LD ₅₀	Oral	Rat	19 mg/kg
	LD ₅₀	Intramuscular	Rat	576 mg/kg
	LD ₅₀	Intramuscular	Mouse	60 mg/kg
	LD ₅₀	Intramuscular	Dog	>1500 mg/kg
Benzyl alcohol	LC ₅₀	Inhalation	Rat	8.8 mg/L/4 hours
	LD ₅₀	Oral	Rat	1230 - 3100 mg/kg
	LD ₅₀	Dermal	Rabbit	2000 mg/kg
	LD ₅₀	Oral	Mouse	1150 - 1580 mg/kg

Irritation/Corrosion Benzyl alcohol was slightly irritating to rabbit skin and irritating to rabbit eyes.

Sensitization Benzyl alcohol was negative for sensitization in guineas pigs.

STOT-single exposure In the acute toxicity studies with rats, mice, and dogs (LD₅₀ values listed above), deaths were the result of respiratory failure following fluphenazine decanoate administration.

STOT-repeated exposure/Repeat-dose toxicity In repeat-dose studies in rats, weekly subcutaneous (SC) injections of fluphenazine decanoate resulted in catalepsy (fixed body posture) at doses ≥ 10 mg/kg after 3 months; decreased body weight and adrenal weight, increased pituitary weight in males, and slight hypertrophy of mammary glands and lactation were noted at doses ≥ 3 mg/kg after 6 months. Reduced activity, pupillary constriction, and tremors were observed in dogs following weekly SC injections at >10 mg/kg for 3 months.

Reproductive toxicity Rats treated with fluphenazine decanoate *via* intramuscular (IM) injection prior to mating and through gestation experienced prolonged estrus cycles (dose not specified). In other fertility studies with rats, weekly subcutaneous (SC) injections decreased the fertility index in males and females following doses of 2.5 mg/kg.

Developmental toxicity No fetal effects were seen in rats administered single SC injections of fluphenazine decanoate during organogenesis at doses up to 25 mg/kg. Possible interference with implantation and delayed ossification were noted in rabbits following a single SC injection of 5.6 mg/kg during organogenesis. Fluphenazine caused no developmental/teratogenic effects in the offspring of rats treated orally with 100 mg/kg/day throughout pregnancy; the offspring of mice treated orally with 1 mg/kg/day during gestation had decreased fetal weights and dilated cerebral ventricles.

SECTION 11 - TOXICOLOGICAL INFORMATION ...continued

Genotoxicity	Fluphenazine decanoate was not mutagenic in bacteria (<i>E.coli</i> and <i>S. typhimurium</i>) and yeast. However, IM administration of fluphenazine at a dose of 5 mg/kg inhibited DNA repair synthesis in the rat brain. Benzyl alcohol was negative in a battery of <i>in vitro</i> and <i>in vivo</i> genotoxicity screening tests.
Carcinogenicity	In a 30 week carcinogenicity study, female rats did not develop tumors after being intragastrically administered 200 µg of fluphenazine decanoate 3 times a week. Benzyl alcohol was not carcinogenic to rats and mice orally treated with up to 400 and 200 mg/kg/day, respectively, for 5 days/week, for 2 years. No other components of the product present at levels greater than or equal to 0.1% are listed by NTP, IARC, ACGIH or OSHA as a carcinogen.
Aspiration hazard	No data available.
Human health data	See Section 2 - "Other hazards"

SECTION 12 - ECOLOGICAL INFORMATION

Toxicity

<u>Compound</u>	<u>Type</u>	<u>Species</u>	<u>Concentration</u>
Fluphenazine decanoate	--	--	--
Benzyl alcohol	LC ₅₀ /48h	<i>Leuciscus idus</i> (freshwater fish)	646 mg/L
	LC ₅₀ /96h	Fathead minnow	460 mg/L
	EC ₅₀ /48h	Daphnia magna	≥100-360 mg/L
	EC ₅₀ /48h	Bacteria (<i>E.coli</i>)	1000 mg/L

Persistence and Degradability	Benzyl alcohol is readily biodegradable under aerobic and anaerobic conditions.
Bioaccumulative potential	Benzyl alcohol is not expected to bioaccumulate.
Mobility in soil	No data identified.
Results of PBT and vPvB assessment	Not performed.
Other adverse effects	No data identified.
Note	The environmental characteristics of this mixture have not been fully investigated. The above data are for the active ingredient and/or any other ingredient(s) where applicable. Releases to the environment should be avoided.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste treatment methods Dispose of wastes in accordance to prescribed federal, state, and local guidelines, e.g., appropriately permitted chemical waste incinerator. Do not send down the drain or flush down the toilet. All wastes containing the material should be properly labeled. Rinse waters resulting from spill cleanups should be discharged in an environmentally safe manner, e.g., appropriately permitted municipal or on-site wastewater treatment facility.

SECTION 14 - TRANSPORT INFORMATION

Transport Based on the available data, this mixture is not regulated as a hazardous material/dangerous good under EU ADR/RID, US DOT, Canada TDG, IATA, or IMDG.

UN number None assigned.

UN proper shipping name None assigned.

Transport hazard classes and packing group None assigned.

Environmental hazards Based on the available data, this mixture is not regulated as an environmental hazard or a marine pollutant.

Special precautions for users Avoid release to the environment.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

SECTION 15 - REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture This SDS complies with the requirements under US, EU and GHS (EU CLP - Regulation EC No 1272/2008) guidelines. Consult your local/regional authorities for more information.

Chemical safety assessment Not conducted.

OSHA Hazardous Warning. May be harmful if swallowed. May cause dizziness or drowsiness.

WHMIS classification Not required. Drugs are not subject to WHMIS. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations. If this product/mixture were not a drug, it would be classified as: D2B - Toxic - Materials causing other toxic effects.

SECTION 15 - REGULATORY INFORMATION ...continued

TSCA status	Drugs are exempt from TSCA.
SARA section 313	Not listed.
California proposition 65	Not listed.
Additional information	No other information identified.

SECTION 16 - OTHER INFORMATION

Full text of R phrases and EU Classifications	Xn - Harmful. R22 - Harmful if swallowed. R20/22 - Harmful by inhalation and if swallowed.
Full text of H phrases, P phrases and GHS classification	ATO4 - Acute Toxicity (Oral) Category 4. ATO2 - Acute Toxicity (Oral) Category 2. H300 - Fatal if swallowed. H302 - Harmful if swallowed. STOT-S3 - Specific Target Organ Toxicity Following Single Exposure Category 3. H336 - May cause drowsiness or dizziness.
Sources of data	Information from published literature and internal company data.
Abbreviations	ACGIH - American Conference of Governmental Industrial Hygienists; ADR/RID - European Agreement Concerning the International Carriage of Dangerous Goods by Road/Rail; AIHA - American Industrial Hygiene Association; CAS# - Chemical Abstract Services Number; DNEL - Derived No Effect Level; DOT - Department of Transportation; EINECS - European Inventory of New and Existing Chemical Substances; ELINCS - European List of Notified Chemical Substances; EU - European Union; GHS - Globally Harmonized System of Classification and Labeling of Chemicals; IARC - International Agency for Research on Cancer; IDLH - Immediately Dangerous to Life or Health; IATA - International Air Transport Association; IMDG - International Maritime Dangerous Goods; LOEL - Lowest Observed Effect Level; LOAEL - Lowest Observed Adverse Effect Level; NIOSH - The National Institute for Occupational Safety and Health; NOEL - No Observed Effect Level; NOAEL - No Observed Adverse Effect Level; NTP - National Toxicology Program; OEL - Occupational Exposure Limit; OSHA - Occupational Safety and Health Administration; PNEC - Predicted No Effect Concentration; SARA - Superfund Amendments and Reauthorization Act; STEL - Short Term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; WHMIS - Workplace Hazardous Materials Information System
Revisions	Updated contact information in Section 1.
Disclaimer	<p>The above information is based on data available to us and is believed to be correct. Since the information may be applied under conditions beyond our control and with which we may be unfamiliar, we do not assume any responsibility for the results of its use and all persons receiving it must make their own determination of the effects, properties and protections which pertain to their particular conditions.</p> <p>No representation, warranty, or guarantee, express or implied (including a warranty</p>

SECTION 16 - OTHER INFORMATION ...continued

Disclaimer ...continued

of fitness or merchantability for a particular purpose), is made with respect to the materials, the accuracy of this information, the results to be obtained from the use thereof, or the hazards connected with the use of the material. Caution should be used in the handling and use of the material because it is a potent pharmaceutical product. The above information is offered in good faith and with the belief that it is accurate. As of the date of issuance, we are providing all information relevant to the foreseeable handling of the material. However, in the event of an adverse incident associated with this product, this Safety Data Sheet is not, and is not intended to be, a substitute for consultation with appropriately trained personnel.