

## Vercet Lactides Technical Data Sheet

### Monomers & Chemical Intermediates

#### Description

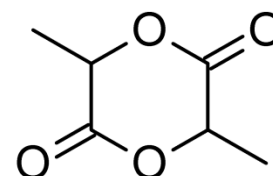
Vercet™ lactides are high-purity di-lactones useful for the synthesis of polymers, copolymers, and grafted substrates. They are also useful as reactive chemical intermediates for other synthesis and manufacturing purposes.

**Formula:** C<sub>6</sub>H<sub>8</sub>O<sub>4</sub>

**Chemical Name:** 3,6-dimethyl-1,4-dioxane-2,5-dione

**Molecular Weight:** 144 g/mol

**CAS Registry Number:** 95-96-5



*cyclic di-ester of lactic acid*

#### Composition & Physical Properties

Attribute	Typical Value <sup>(1)</sup>				Method
	L-Lactides		Meso-Lactides		
	L50	L100	M700	M3002	
Grade	Polymer	Polymer	Polymer	Reagent	
Stereochemistry (D-lactic equivalent)	≤ 0.5%	< 3%	> 40%	> 35%	GC
Color	White			White to light yellow	Visual inspection
Overall Lactide Purity	≥ 99.5%	≥ 99%	≥ 99.5%	≥ 96%	GC
Melting Range (Peak) (°C)	95–98		54–56		DSC at 20°C min <sup>-1</sup>
Specific Gravity: Solid at 25°C	1.36		1.33		Pyknometer
Specific Gravity: Liquid at 130°C	1.16		-		Hydrometer
Specific Heat Capacity: Solid at 25°C (J g <sup>-1</sup> K <sup>-1</sup> )	1.3		-		DSC
Specific Heat Capacity: Liquid at 130°C (J g <sup>-1</sup> K <sup>-1</sup> )	2.2		-		DSC
Heat of Vaporization (kJ mol <sup>-1</sup> )	~63		~56		

(1) Typical composition and properties are not to be construed as specifications.

(2) Additional data may be made available upon request.

#### Samples

Vercet lactides can be supplied in 1-litre and 5-litre containers for laboratory-scale evaluations, and in 5-gal (19-litre) and 55-gal (225-litre) stainless steel drums for pilot-scale evaluations. They can also be supplied at a commercial scale in bulk tank-trucks and jacketed iso-containers.

## Vercet Lactides Technical Data Sheet

### Safety and Handling Considerations

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Safety Data Sheets (SDSs) for Vercet lactides are available from NatureWorks. SDSs are provided to help customers satisfy their own handling, safety, and disposal needs, and those that may be required by locally applicable health and safety regulations. SDSs are updated regularly; therefore, please request and review the most current SDSs before handling or using any product.

*The following comments apply only to Vercet lactides; additives and processing aids used in processing and other materials used in finishing steps have their own safe-use profile and must be investigated separately.*

### Hazards and Handling Precautions

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Vercet lactide should be handled in an environment free of oxygen and moisture. Vercet lactides, when in contact with moisture, will produce lactic acid, which is corrosive. Avoid inhalation, ingestion, eye and skin contact. Caution is advised when handling, storing, using, or disposing of lactides, and good housekeeping practices are necessary for safe handling of product.

Appropriate personal protective equipment should be used for handling Vercet lactides. Avoid contact with hot lactide. Workers should be protected from the possibility of contact with hot lactide during processing. Use gloves with insulation for thermal protection in case of inadvertent exposure to hot lactide. See SDS for further information.

Vercet lactides should be processed in a manner that avoids generation of vapors and dusts that may cause irritation to eyes and the upper respiratory tract.

Good general ventilation of the lactide processing area is recommended. Good general ventilation should be sufficient for most conditions. Local exhaust ventilation is recommended. Use safety glasses (or goggles) to prevent exposure. If vapor exposure causes eye discomfort, improve localized fume exhausting methods or use a full-face respirator.

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### Disposal

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DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. For unused or uncontaminated material, the preferred option is to recycle into the process otherwise, send to an incinerator or other thermal destruction device. For used or contaminated material, the disposal options remain the same, although additional evaluation is required. Disposal must be in compliance with Federal, State/Provincial, and local laws and regulations.

### Environmental Concerns

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Dispose of material in accordance with appropriate Federal, State, and local regulations. Spills should be minimized, and they should be cleaned up when they happen. Lactides should not be discarded into the environment.

### Product Stewardship

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