Classification
Nitrate Vasodilator

Prehospital Indications
- Chest Pain – Suspected Cardiac
- Chest Pain – STEMI
- Pulmonary Edema / CHF

Other Common Indications
Rapid blood pressure lowering in hypertensive emergency

Adult Dose
- Chest Pain – Suspected Cardiac / Chest Pain – STEMI
  0.4 mg SL prn, repeat every 5 min prn x2, total 3 doses, hold if SBP < 100mmHg or patient has taken sexually enhancing medication within 48 hours
- Pulmonary Edema / CHF
  0.4mg SL, for SBP ≥ 100mmHg
  0.8mg SL, for SBP ≥ 150mmHg
  1.2mg SL, for SBP ≥ 200mmHg
  Repeat every 3-5 min prn x2 for persistent dyspnea, assess blood pressure prior to each administration and determine subsequent dose base on SBP as listed above. Hold if SBP < 100mmHg

Pediatric Dose
Not recommended for pediatric administration

Mechanism of Action
Organic nitrate which causes systemic venous dilatation, decreasing preload. Cellular mechanism: nitrate enters vascular smooth muscle and is converted to nitric oxide leading to vasodilation. Relaxes smooth muscle via dose-dependent dilation of arterial and venous beds to reduce both preload and afterload, and myocardial oxygen demand. Also improves coronary collateral circulation. Lowers BP, increases heart rate and occasional paradoxical bradycardia.

Pharmacokinetics
Onset is 1-3 min SL or TM; duration is 20-30 min

Contraindications
Use of sexually enhancing/erectile dysfunction medications such as sildenafil, tadalafil or vardenafil within the past 48 hours
- Hypotension with SBP < 90
- Suspected cardiac tamponade

Interactions
Alcohol, opiates and antihypertensive agents may compound hypotensive effects. Patients taking sexually enhancing/erectile dysfunction medications are at risk for severe, prolonged hypotension leading to death.

Adverse Effects
- Circulatory Collapse
- Dizziness
- Headache
- Hypotension / Postural Hypotension
- Syncope
- Weakness

Prehospital Considerations
- Caution advised in suspected intracranial hemorrhage or stroke patients