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### ***Where, Which Agents and How They're Used***








COUNTRY	PRODUCT	APPROVED USES	NOTES
<b>Australia</b>	<b>DEFINITY®</b>	LVO / EBD, liver, kidney	
<b>Austria</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>Belgium</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>Brazil</b>	 Sulphur Hexafluoride	LVO/EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	Marketed wef 2014
	<b>Optison™</b>	LVO / EBD	No longer marketed
	<b>DEFINITY®</b>	LVO / EBD, liver, kidney	No longer marketed
<b>Bulgaria</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	



<b>Canada</b>	<b>DEFINITY®</b>	LVO / EBD, liver, kidney, spleen, pancreas, bladder, bowel, ovary, uterus, testicle	Abdominal imaging including gynecological applications; some off-label studies including bowel and the carotid artery.
	 Sulphur Hexafluoride	LVO / EBD and diagnostic assessment of vessels	Not marketed in Canada
<b>China</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	Used especially for liver and kidney
	SONAZOID		Under trial; approval expected 2016
<b>Cyprus</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>Czech Republic</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD: Left ventricular opacification / endocardial border delineation	
<b>Denmark</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
	SONAZOID	Focal liver lesions (with annual application to Health Authority for specific Doctor approval)	
<b>Ecuador</b>		No approval policy	Situation may change soon.
<b>Estonia</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>Finland</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU

	<b>Optison™</b>	LVO / EBD: Left ventricular opacification / endocardial border delineation	
<b>France</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD: Left ventricular opacification / endocardial border delineation	
<b>Germany</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>Greece</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>Hong Kong</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	
<b>Hungary</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>Iceland</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	
<b>India</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	
	<b>DEFINITY®</b>	LVO / EBD, liver, kidney	
<b>Ireland</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>Israel</b>	<b>DEFINITY®</b>	LVO / EBD, liver, kidney	

<b>Italy</b>		LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU; Used widely to enhance diagnostic performance (liver, spleen, pancreas, gallbladder, kidneys, gut, bladder, vessels, soft tissues) whenever appropriate, except where contraindicated.
<b>Japan</b>	SONAZOID	Focal liver lesions; Focal breast lesions	
		LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	
<b>Latvia</b>		LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>Lithuania</b>		LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>Luxembourg</b>		LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>Malta</b>		LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>Mexico</b>	<b>DEFINITY®</b>	LVO / EBD, liver, kidney	
		LVO / EBD	

<b>Netherlands</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU; used in - Anesthesiology and Cardiology (every procedure except within 7 days of an Acute coronary syndrome, mostly used in Stress echo); Hepatology: suspicion of liver tumors and/or hemangiomas; Vascular medicine: improvement of 2D B-mode imaging. vascularity in approval phase e.g. vasa vasorum.
	<b>Optison™</b>	LVO / EBD	Prostate cancer diagnosis with Contrast-enhanced Ultrasound Dispersion Imaging (CUDI).
<b>New Zealand</b>	<b>DEFINITY®</b>	LVO / EBD, liver, kidney	
<b>Norway</b>	SONAZOID	Focal liver lesions	
	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	
	<b>Optison™</b>	LVO	
<b>Poland</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>Portugal</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>Romania</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>Russia</b>	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	

Singapore	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	
	DEFINITY®	LVO / EBD.	
Slovakia	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	Optison™	LVO / EBD	
Slovenia	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	Optison™	LVO / EBD	
South Korea	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	
	DEFINITY®	LVO / EBD.	
	SONAZOID	Focal liver lesions	
Spain	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU; Approved for liver diseases but being used also in biliary tract diseases, in pancreas disorders and in liver or pancreatic transplant. Also for kidney, bladder and vascular pathology.
	Optison™	LVO / EBD	
Sweden	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	Optison™	LVO / EBD	
Switzerland	 Sulphur Hexafluoride	LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EFSUMB CEUS guidelines
United Arab Emirates	DEFINITY®	LVO / EBD.	

<b>United Kingdom</b>		LVO / EBD, breast, liver, portal vein, extracranial carotid, peripheral arteries (macrovascular and microvascular)	EU
	<b>Optison™</b>	LVO / EBD	
<b>USA</b>	<b>Optison™</b>	LVO / EBD	
	<b>DEFINITY®</b>	LVO / EBD	
	<b>LUMASON</b>	LVO / EBD / liver	aka 

**Note:**

LVO - Left ventricular opacification