

## MDIs and DPIs for Asthma and COPD, Sold in the USA – [UPDATED October 2009]

Drug Substance	CFC/ non-CFC/ DPI	Innovator/ Generic	Drug Product	Manufacturer	Approval Date	Source (Imported or Domestic)	Exported to Other Parties?
<b>Short-Acting Bronchodilators:</b>							
Albuterol	Non-CFC	Innovator	Proventil HFA	3M	15 Aug 1996	Domestic and Imported	No
			Ventolin HFA	GlaxoSmithKline	19 April 2001	Imported	Yes (UK)
			ProAir HFA	IVAX	29 Oct 2004	Imported	No
Levalbuterol	Non-CFC	Innovator	Xopenex HFA	3M	11 Mar 2005	Domestic	No
**Pirbuterol acetate	CFC	Innovator	Maxair Autohaler	3M	30 Nov 1992	Domestic	No
**metaproterenol	CFC	Innovator	Alupent	BI	31 July 1973	Marketing discontinued November 14, 2008	
*Epinephrine	CFC	Generic	Epinephrine Inhalation Aerosol	Armstrong	23 May 1984	Domestic	No
Ipratropium Bromide	Non-CFC	Innovator	Atrovent HFA	3M	17 Nov 2004	Domestic	No
<b>Long-Acting Bronchodilators:</b>							
Formoterol fumarate	DPI	Innovator	Foradil Aerolizer	Novartis	16 Feb 2001	Imported	No
	DPI	Innovator	Foradil Certihaler	Novartis	15 Dec 2006	Never marketed in U.S.	
Salmeterol xinafoate	DPI	Innovator	Serevent Diskus	GlaxoSmithKline	19 Sept 1997	Imported (UK)	No
Tiotropium bromide	DPI	Innovator	Spiriva HandiHaler	Boehringer Ingelheim	30 Jan 2004	Domestic	Yes
<b>Corticosteroids:</b>							
Beclomethasone dipropionate	Non-CFC	Innovator	Qvar 40, 80	3M	15 Sep 2000	Domestic and Imported	No
Budesonide	DPI	Innovator	Pulmicort Turbuhaler	AstraZeneca	24 Jun 1997	Not marketed in U.S.	Yes

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	DPI	Innovator	Pulmicort Flexhaler	AstraZeneca	12 July 2006	Imported	Yes
**Flunisolide hemihydrate	CFC	Innovator	Aerobid	3M	17 Aug 1984	Domestic	No
Flunisolide hemihydrate	Non-CFC	Innovator	Aerospan HFA	3M	27 Jan 2006	Never marketed in U.S.	
Fluticasone propionate	Non-CFC	Innovator	Flovent HFA 44, 110, 220mcg	GlaxoSmithKline	14 May 2004	Imported	Yes ( UK, & France)
	DPI	Innovator	Flovent Rotadisk	GlaxoSmithKline	7 Nov 1997	Not Marketed in U.S.	No
	DPI	Innovator	Flovent Diskus	GlaxoSmithKline	29 Sep 2000	Imported	Yes
Mometasone	DPI	Innovator	Asmanex Twisthaler	Schering	30 March 2005	Domestic	No
**triamcinolone	CFC	Innovator	Azmacort	Abbott	23 April 1982	Notified marketing discontinued June 12, 2009	
Ciclesonide	Non-CFC	Innovator	Alvesco	Nycomed	10 Jan 2008	Imported	No
<b>Other Agents:</b>							
**Cromolyn Sodium	CFC	Innovator	Intal	Aventis	5 Dec 1985	July 31, 2009, announced discontinuation of marketing	No
**nedocromil	CFC	Innovator	Tilade	King	30 Dec 1992	April 30, 2008, announced discontinuation of marketing	
<b>Combination Products:</b>							
.Salmeterol xinafoate/ fluticasone propionate	DPI	Innovator	Advair Diskus 100/50, 250/50, 500/50	GlaxoSmithKline	24 Aug 2000	Imported	Yes
	Non-CFC	Innovator	Advair HFA 45/21, 115/21, 230/21	GlaxoSmithKline	8 Jun 2006	Imported	Yes

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** Albuterol sulfate/ Ipratropium bromide	CFC	Innovator	Combivent MDI	Boehringer Ingelheim	24 Oct 2006	Domestic	Yes (Canada)
Budesonide/formoterol fumarate	DPI	Innovator	Symbicort	Astra Zeneca	21 Jul 2006	Imported	Yes
<p>* essential use designation removed December 31, 2011 (per 73 Federal Register 69532, November 19, 2008)</p> <p>** essential use final date to be determined (pending finalization of proposed rule 73 Federal Register 32030, June 11, 2007)</p>							