

**DOW**

HEALTHCARE, PHARMACEUTICAL AND MEDICAL

API Manufacturing Aid Product Guide

Whether you are developing small molecule or biologic APIs, Dow offers a comprehensive portfolio of chemistries to support your manufacturing goals. This guide outlines the solvents, intermediates, and processing aids commonly used in the initial stages of synthesis.

We provide a range of high-purity technical grade, technical/industrial grade, and compendial chemistries that can be sourced from ISO 9001-certified manufacturing facilities, helping to support quality, consistency, and supply reliability.

Beyond product supply, Dow collaborates with customers to assess fit-for-purpose specifications for selected chemistries. This approach helps ensure material attributes, documentation packages, and supply expectations are aligned with the unique requirements of each API manufacturing process.



Alcohols

Alcohols are versatile chemistries used in API manufacturing primarily as solvents and, in select cases, as synthetic intermediates. Their combination of polarity, hydrogen-bonding capability, and favorable volatility makes them valuable in synthesis, extraction, purification, crystallization, and drying operations. Certain alcohols may also serve as feedstocks for the preparation of downstream pharmaceutical intermediates, reagents, and functionalized derivatives used in API manufacturing routes.

Raw Material	Chemical Name	CAS	Solvent	Intermediate	Processing Aid	Boiling point (°C at 760 mm Hg)	Flash point (°C)	ISO9001	Readily Biodegradable	Use	Countries of Manufacture
n-Propanol	Propyl Acohol; 1-Propanol; Propan-1-ol	71-23-8	●			97.2	23	●	●	Used as reaction, extraction, purification, and crystallization solvents in API manufacturing. Their combination of solvency, volatility, and process compatibility supports synthesis, work-up, isolation, drying, and purification operations while enabling efficient solvent recovery and removal.	USA
n-Butanol	Butyl Alcohol, 1-Butanol	71-36-3	●			117.7	36	●	●		USA
2-Ethylhexanol	2-Ethyl-1-Hexanol, 2-Ethylhexyl Alcohol, Isooctanol, Octyl Alcohol	104-76-7	●			184.6	72	●	●		USA
Primary Amyl Alcohol, Mixed Isomers	Amyl Alcohol; Pentanol Mixture; Reaction Mass of 2-Methylbutan-1-ol and Pentan-1-ol	137-32-6 71-41-0	●			133.2	45	●	●		USA
Isobutanol	Isobutyl Alcohol; 2-Methyl-1-Propanol; 2-Methylpropan-1-ol	78-83-1	●	●		107.9	28	●	●	Used as process solvents and as feedstocks for the preparation of downstream pharmaceutical intermediates, reagents, and specialty derivatives. Their alcohol functionality enables conversion into reactive building blocks that may be used in API synthesis pathways while also providing effective extraction and reaction solvent performance.	USA
n-Pentanol High Purity	Pentyl Alcohol; 1-Pentanol	71-41-0	●	●		137.9	48	●	●		USA

Esters

Esters are used in API manufacturing primarily as solvents for extraction, purification, crystallization, and reaction processes. Their balance of organic solvency, limited water miscibility, and ease of removal makes them valuable throughout synthesis and downstream processing.

Raw Material	Chemical Name	CAS	Solvent	Intermediate	Processing Aid	Boiling point (°C at 760 mm Hg)	Flash point (°C)	ISO9001	Readily Biodegradable	Use	Countries of Manufacture
Isopropyl Acetate, High Purity	2-Propyl Acetate, Isopropyl Ester of Acetic Acid; Isopropyl Ethanoate	108-21-4	●			88.5	2	●	●	Used in extraction, purification, crystallization, and reaction processes where efficient phase separation, controlled volatility, and easy solvent removal are desired. Their balance of solvency and limited water miscibility supports API isolation and purification operations.	USA
n-Butyl Acetate, Urethane Grade	Butyl Acetate; n-Butyl Ester of Acetic Acid; Butyl Ethanoate	123-86-4	●			126.2	22	●	●		USA
Isobutyl Acetate, Urethane Grade	2-Methylpropyl Acetate; Isobutyl Ester of Acetic Acid; Isobutyl Ethanoate	110-19-0	●			118	18	●	●		USA
n-Propyl Acetate	Propyl Acetate; n-Propyl Ester of Acetic Acid; Propyl Ethanoate	109-60-4	●			101.5	14	●	●		USA
Primary Amyl Acetate, Mixed Isomers	n-Amyl Acetate; Pentyl Acetate; Pentyl Ester of Acetic Acid	628-63-7 624-41-9	●			146	25	●	●		USA
UCAR™ n-Penyl Propionate	Propylene Glycol Diacetate	624-54-4	●			165	57	●	●	Used where tailored solvency, controlled evaporation, and compatibility with hydrophobic process streams are required.	USA

Glycol Ethers

Glycol ethers are multifunctional solvents used in API manufacturing primarily as co-solvents. Their combination of hydrophilic and hydrophobic character enables broad solvency, making them useful for solubilization, process compatibility, extraction, and handling of challenging pharmaceutical intermediates.

Raw Material	Chemical Name	CAS	Solvent	Intermediate	Processing Aid	Boiling point (°C at 760 mm Hg)	Flash point (°C)	ISO9001	Readily Biodegradable	Use	Countries of Manufacture
CARBITOL™ Solvent	Diethylene Glycol Monoethyl Ether	111-90-0	●			202	96	●	●	Used as co-solvents to improve solubility, facilitate processing of poorly soluble compounds, and enhance compatibility across API manufacturing operations.	USA
DOWANOL™ DPM Glycol Ether	Dipropylene Glycol Methyl Ether (DPM)	34590-94-8	●			190	75	●	●		USA, China
DOWANOL™ DPnB Glycol Ether	Dipropylene Glycol Monobutyl Ether (DPnB)	29911-28-2	●			230	100	●	●		USA, Germany
DOWANOL™ PMA Glycol Ether	Propylene Glycol Monomethyl Ether Acetate (PGMEA)	108-65-6	●			146	42	●	●		USA, Germany, China
DOWANOL™ DPMA Glycol Ether	Dipropylene Glycol Methyl Ether Acetate	88917-22-0	●			209	86	●	●		USA, Germany, China
PROGLYDE™ DMM Glycol Diether*	Dipropylene Glycol Dimethyl Ether	111109-77-4	●			175	65	●	●	Used where enhanced solvency, specialty extraction performance, or replacement of more restricted solvents is required.	UK
Butyl CELLOSOLVE™ Solvent	2-Butoxyethanol (EGBE)	111-76-2	●			170.7	65	●	●		USA
Hexyl CELLOSOLVE™ Solvent	2-Hexoxyethanol	112-25-4	●			208	91	●	●		USA
DOWANOL™ PPh Glycol Ether	Propylene Glycol Phenyl Ether (PPh)	770-35-4	●			243	119	●	●		USA

* Potential NMP replacement.

Acids

Oxo acids are used in API manufacturing primarily as intermediates and functional building blocks. Their carboxylic acid functionality enables preparation of salts, esters, prodrugs, and other pharmaceutical derivatives that may become incorporated into downstream API structures. Selected oxo acids may also contribute to extraction or purification operations, but their strongest value proposition is as reactive intermediates for synthesis.

Raw Material	Chemical Name	CAS	Solvent	Intermediate	Processing Aid	Boiling point (°C at 760 mm Hg)	Flash point (°C)	cGMP*	ISO9001	Readily Biodegradable	Use	Countries of Manufacture
Propionic Acid, FCC Grade	Methyl Acetic Acid; Ethyl Formic Acid; Propanoic Acid; Ethanecarboxylic Acid; Carboxyethane	79-09-4		●		140.8	52	●	●		Used as intermediates for preparation of pharmaceutical derivatives, ester functionalities, prodrugs, and advanced intermediates that become incorporated into API manufacturing routes.	USA
Isopentanoic Acid, Mixed Isomers	Valeric Acid, 2-Methylbutyric Acid	109-52-4 115-53-0		●		183.1	77		●			USA
Valeric Acid	Pentanoic Acid; Propylacetic Acid; Butanecarboxylic Acid	109-52-4		●		185.5	84		●	●		USA
2-Ethylhexoic Acid	2-Ethylhexanoic Acid, 2-Ethylcaproic Acid, 3-Heptanecarboxylic Acid	149-57-5		●		227.8	124		●	●	Used as a specialty intermediate where branched acid functionality supports preparation of derivatives and downstream synthetic transformations; may also support selected extraction or work-up processes where acid functionality provides process benefit.	USA

* See regulatory documentation for specific food contact compliance and/or GMP level.

Amines

Dow’s amine portfolio supports API manufacturing as both synthetic intermediates and processing aids. Amines may function as key building blocks for pharmaceutical synthesis while also providing critical process support through pH control, acid neutralization, salt formation, extraction enhancement, complexation, and reaction optimization. These versatile chemistries can be used throughout synthesis, purification, and downstream processing to help improve process performance and product quality for both small- and large-molecule pharmaceuticals.

Raw Material	Chemical Name	CAS	Solvent	Intermediate	Processing Aid	Boiling point (°C at 760 mm Hg)	Flash point (°C)	ISO9001	Readily Biodegradable	Use	Countries of Manufacture
Triethanolamine (TEA)	Triethanolamine	102-71-6		●	●	361	179	●	●	Used as processing aids for pH adjustment, acid neutralization, salt formation, buffering, and reaction control during API synthesis and purification. May also serve as intermediates for formation of specialty pharmaceutical building blocks and derivatives.	USA
Monoethanolamine (MEA)	Monoethanolamine	141-43-5		●	●	170.5	95.5	●	●		USA
Diethanolamine (DEA)	Diethanolamine	111-42-2		●	●	269	138	●	●		USA
Piperazine 68% AQ	Piperazine	110-85-0		●	●	146	65	●	●	Used as pharmaceutical building blocks and may also function as bases, complexing agents, impurity scavengers, and reaction modifiers during synthesis and purification.	USA
Ethylenediamine (EDA)	Ethylenediamine	107-15-3		●	●	117	38	●	●		USA
Diethylenetriamine (DETA)	Diethylenetriamine	111-40-0		●	●	207	94	●	●		USA
Diisopropanolamine (DIPA)	Diisopropanolamine	110-97-4		●	●	249	127	●	●	Used primarily as processing aids where pH control, neutralization, buffering, and process optimization are required. Their multifunctional structure can support formulation stability, extraction operations, and reaction performance.	USA
Triisopropanolamine (TIPA)	Triisopropanolamine	122-20-3		●	●	305	154	●			USA
PRIMENE™ TOA Amine	tert-Octylamine	107-45-9		●	●	127	10	●		Used as specialty processing aids in extraction, separation, and ion-exchange processes where selective recovery, purification, or isolation of pharmaceutical intermediates is required.	USA

Surfactants and Defoamers

Dow has the capability to produce the following chemistries in accordance with various levels of Good Manufacturing Practices. If you are interested in a specific chemistry, please contact us to learn more.

Raw Material	Chemical Name	CAS	Solvent	Intermediate	Processing Aid	Boiling point (°C at 760 mm Hg)	Flash point (°C)	cGMP*	ISO9001	FDA CFR 21*	Readily Biodegradable	Use	Countries of Manufacture
Secondary Alcohol Ethoxylates	Alcohols, C12-14-secondary, Ethoxylated	84133-50-6			●	> 250	193	●	●	●	●	Used for equipment cleaning, processing of biologics, and viral inactivation.	USA
Primary Alcohol Ethoxylates	Alcohols, C9-11 and C12-16, Ethoxylated	68551-12-2			●			●	●	●	●		USA
Ethylene Oxide/Propylene Oxide Copolymers	Polyalkylene Glycol	9003-11-6			●		216	●	●	●	●		USA, Netherlands
Polypropylene Glycols	Polypropylene Glycol	25322-69-4			●		198	●	●	●	●	Used for the processing of biologics and foam control.	USA
TERGITOL™ 15-S-9 Surfactant	Alcohols, C12-14-secondary, Ethoxylated	84133-50-6			●		193	●	●	●	●	Used for equipment cleaning, processing of biologics, and viral inactivation.	USA
Primary Alcohol Ethoxylates	Alcohols, C12-16, Ethoxylated	68551-12-2			●			●	●	●	●		USA
DOWFAX™ DF-111 Defoamer	Alcohol Alkoxylate	Trade Secret			●		>150	●	●	●	●	Used for foam control.	Netherlands
DOWFAX™ DF-123 Defoamer	Alcohol Alkoxylate	25791-96-2			●		230	●	●				Spain
DOWFAX™ 63N10 Nonionic Surfactant	Ethylene Oxide/Propylene Oxide Copolymers	9003-11-6			●		216	●	●	●	●		Netherlands, Spain
Polyglycol EP-436	Ethylene Oxide/Propylene Oxide Copolymers	9001-11-6			●		>200	●	●	●	●		USA, Spain
Polyglycol P 2000	Polypropylene Glycol	25322-69-4			●		>185	●	●	●	●		USA, Spain
Polyglycol PT 3000	Glycerol Propylene Oxide Polymer	25791-96-2			●		>177	●	●	●			USA
UCON™ Lubricant LB-625	Polyalkylene Glycol	9003-13-8			●		168	●	●	●			USA

* See regulatory documentation for specific food contact compliance and/or GMP level.

Compendial Materials

Compendial materials complement the broader API-manufacturing portfolio by offering selected chemistries aligned with recognized compendial or food/pharma standards such as NF, USP, EP, or FCC where applicable. These products can support API and biopharma operations as solvents/co-solvents, intermediates, chelants/stabilizers, peptide-synthesis supports, or formulation/process aids. Suitability should be confirmed against the intended application, grade, customer specification, documentation needs, and regulatory expectations.

Raw Material	Chemical Name	CAS	Solvent	Intermediate	Processing Aid	Compendial Compliance	Readily Biodegradable	Use	Countries of Manufacture
DOWANOL™ EPH NF**	Phenoxyethanol	122-99-6	●			USP-NF	●	Co-solvent/carrier for poorly soluble APIs to improve solubility and bioavailability.	USA
Propionic Acid, FCC Grade	Methyl Acetic Acid; Ethyl Formic Acid; Propanoic Acid; Ethanecarboxylic Acid; Carboxyethane	79-09-4		●		FCC	●	Functional carboxylic acid for ester, salt, propionate-derivative, and other downstream API intermediate routes; can also support extraction or work-up where acid functionality is useful.	USA
Propylene Glycol (PG) USP/EP	1,2-Propanediol, Monopropylene Glycol	57-55-6	●		●	USP-NF, Ph.Eur, FCC, JP	●	USP/EP propylene glycol used as solvent/ co-solvent, carrier, humectant/stabilizer, and process or formulation aid to improve solubility of poorly water-soluble APIs and support liquid, topical, and other dosage/process systems.	USA, Brazil, Germany, Thailand
VERSENE™ NA Chelating Agent	Disodium EDTA FCC Edetate Disodium USP Disodium Ethylenediaminetetraacetate Dihydrate	6381-92-6 139-33			●	USP-NF, FCC ***		Used to bind trace metal ions that can affect color, clarity, stability, and shelf life; supports pharmaceutical and bioprocessing applications by helping control metal-catalyzed oxidation/ degradation and metal-ion concentrations.	USA
CARBOWAX™ SENTRY™ Polyethylene Glycol (PEG)	Polyethylene Glycol, Macrogol	25322-68-3	●	●	●	USP-NF, Ph.Eur. ***	●	Used as manufacturing processing aid, solubilizer/carrier, PEG-based support or linker concept for solid-phase peptide synthesis, and aqueous two-phase purification aid.	USA
CARBOWAX™ SENTRY™ Methoxypolyethylene Glycol (MPEG)	Methoxypolyethylene Glycol	9004-74-4		●	●	USP-NF		Intermediate for PEG derivatives/PEGylated materials and processing aid or solubilizer/carrier where hydrophilic polymer functionality supports formulation or downstream processing.	USA

** Not for use as excipient in finished drug products.
*** Additional compendial compliances available; contact Dow

Heat Transfer Fluids

Dow provides a broad portfolio of heat transfer fluids and application expertise that enables precise temperature control across chemical synthesis and fermentation for APIs and precursors, lyophilization, vaccine production, and reaction control.

Please visit [Pharma Heat Management](#) to learn more.

Raw Material	Chemistry	Temperature use range (°C)	Flash point (°C)	cGMP*	FDA CFR 21*	NSF	Use	Countries of Manufacture
SYLTHERM™ 800 Stabilized Heat Transfer Fluid	Silicone-based blend	-40 to 400	0.25 (50)	●			Used in lyophilization and API synthesis.	USA
SYLTHERM™ XLT Heat Transfer Fluid	Silicone-based blend	-100 to 260	0.18 (90)					USA
SYLTHERM™ HF Heat Transfer Fluid	Silicone-based blend	-73 to 260	0.22 (16.6)	●				USA
DOWFROST™ Heat Transfer Fluid	PG-based blend	-45 to 120	0.6 (73.0) for 50%	●	●	●	Used in fermentation and HVAC.	USA , Brazil, China
DOWFROST™ HD Heat Transfer Fluid Dyed	PG-based blend	-18 to 163	0.6 (73.0) for 50%					USA
DOWCAL™ N Heat Transfer Fluid (EU only)	PG-based blend	-18 to 120	0.6 (54.5) for 50%	●		●	Used in fermentation.	Germany

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Contact Us

Contact us to discuss your API Manufacturing Aid needs.



About Dow

Dow (NYSE: DOW) is one of the world's leading materials science companies, serving customers in high-growth markets such as packaging, infrastructure, mobility and consumer applications. Our global breadth, asset integration and scale, customer-focused innovation and leading business positions enable us to achieve profitable growth and help deliver a sustainable future. We operate manufacturing sites in 29 countries and employed approximately 34,600 people as of year-end 2025. Dow delivered sales of approximately \$40 billion in 2025. References to Dow or the Company mean Dow Inc. and its subsidiaries. Learn more about us at www.dow.com.

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