

DERAKANE®
EPOXY VINYL ESTER



COMPOSITE POLYMERS



DERAKANE *Epoxy Vinyl Ester Resins*
CHEMICAL RESISTANCE GUIDE
GUIDE DE RÉSISTANCE CHIMIQUE
BESTÄNDIGKEITSLISTE
GUÍA DE RESISTENCIA QUÍMICA

ASHLAND.

Vorwort

DERAKANE und DERAKANE MOMENTUM™ Epoxy-Vinylesterharze werden hergestellt von Ashland Inc. Zu Hochleistungs-Glasfaserverbundwerkstoffen (GFK) verarbeitet, bieten diese Reaktionsharze eine hervorragende Chemikalienbeständigkeit. Dies erlaubt einen Einsatz unter extremen industriellen Bedingungen.

Diese Broschüre umfaßt eine Einführung mit wichtigen Anwendungsdetails, sowie eine ausführliche Beständigkeitstabelle. Zu den Zielgruppen gehören insbesondere GFK-Hersteller, Endanwender, Ingenieurfirmen und Anlagenbauer, technische Berater und Experten.

Die Empfehlungen in dieser Broschüre gelten für korrosionsbeständige GFK-Lamine, hergestellt nach dem Stand der Technik. Im allgemeinen besitzen diese Lamine eine 2,5-6,3 mm starke Chemieschutzschicht (CSS), ausgelegt für ein bestimmtes Medium. Die erste Schicht der CSS ist ca. 0,3-0,8 mm dick und enthält ca. 95% Harz. Sie wird durch ein oder zwei Vlieslagen verstärkt. Auf diese Schicht werden mehrere Lagen (2-6 mm) harzgetränkte, pulvergebundene Wirrfasermatten aufgebracht. Diese CSS wird dann mit dem sogenannten Traglaminat versehen, das für die Festigkeit und die Steifigkeit des GFK-Bauteils sorgt.

Die Einsatzgrenzen in dieser Broschüre sind nach unserem besten Wissen und Gewissen mit GFK auf der Basis von DERAKANE Harzen zu erreichen, vorausgesetzt, die Bauteile wurden korrekt ausgelegt, hergestellt, und installiert. Da jedoch Ashland als Harzhersteller keinerlei Kontrolle über die Verarbeitung der DERAKANE und DERAKANE MOMENTUM Harze sowie über die vielen anderen Einflussgrößen hat, wird für die Empfehlungen keine Haftung übernommen.

Eine Auslegung von GFK – Bauteilen ist nicht Gegenstand dieser Broschüre. Wir verweisen hierzu auf die einschlägigen Regelwerke.

Weitere Informationen finden Sie auf unserer Internetseite www.derakane.com, oder per E-mail-Anfrage bei derakane@ashland.com.

Kurzbeschreibung der Harze

DERAKANE und DERAKANE MOMENTUM™ 411 Harze sind die Standard-Epoxy Vinylesterharze des chemischen und verarbeitenden Gewerbes. Sie basieren auf Bisphenol-A Epoxidharz und sind beständig gegen eine Vielzahl von Säuren, Laugen, Bleichmittel, und Lösungsmittel. Sie besitzen eine hervorragende Zähigkeit und Dauerschwingfestigkeit.

DERAKANE und DERAKANE MOMENTUM 441-400 Harz ist ein Bisphenol-A Epoxy Vinylesterharz mit Eigenschaften zwischen den DERAKANE 411 und DERAKANE 470 Harzen (mechanische, thermische, und chemische Beständigkeit). Dank seiner einzigartigen Kombination von hoher Wärmeformbeständigkeit und hoher Bruchdehnung ist es besonders für Reaktionsbehälter mit zyklischer Temperaturfahrweise geeignet.

DERAKANE und DERAKANE MOMENTUM 470 Harze sind Epoxy-Novolac Vinylesterharze, ausgelegt für eine maximale thermische und chemische Beständigkeit. Sie sind besonders für den Einsatz im Kontakt mit Lösungsmitteln, Säuren, und oxidierenden Substanzen, wie z.B. Chlorgas geeignet. Durch ihre gute Zähigkeit bei hohen Temperaturen haben sie sich zudem in Rauchgasanwendungen ausgezeichnet bewährt.

DERAKANE und DERAKANE MOMENTUM 510A/C Harze sind bromierte Epoxy Vinylesterharze mit einer hohen Flammwidrigkeit¹. Sie besitzen außerdem eine hohe chemische Beständigkeit gegen Chlor und Bleichmittel. Dank ihres Bromgehaltes sind sie noch zäher und dauerschwingfester als Standard Epoxy Vinylesterharze.

DERAKANE 510N resin Harz ist ein bromiertes Epoxy-Novolac Vinylesterharz mit einer hohen Flammwidrigkeit¹. Es besitzt von allen DERAKANE Harzen die höchste Beständigkeit gegen Chlor, Bleichmittel, und im Rauchgaseinsatz.

DERAKANE 8084 Harz ist an Elastomer-modifiziertes Bisphenol-A Epoxy Vinylesterharz mit außergewöhnlicher Zähigkeit, Durchschlags- und Dauerschwingfestigkeit. Darüber hinaus bietet es ausgezeichnete Adhäsionseigenschaften. Es ist das Harz der Wahl für anspruchsvolle strukturelle Anwendungen und als Grundierung für chemisch beständige GFK-Beschichtungen.

¹Der Grad der Flammwidrigkeit, der mit korrekt formulierten und gehärteten Produkten auf der Basis dieser Harze erreicht wird, wird meistens durch einen Tunneltest nach ASTM E 84 bestimmt. Dies ist ein kontrolliertes Verfahren, welches das Brandverhalten mehrerer Materialien miteinander vergleicht, das jedoch möglicherweise keine Voraussagen des Verhaltens in echten Brandsituationen zulässt. DERAKANE und DERAKANE MOMENTUM Epoxy Vinylesterharze sind organische Materialien, die unter bestimmten Bedingungen (Wärme- und Sauerstoffzufuhr) brennen.

Anleitung zur Benutzung dieser Broschüre

INHALT DER BROSCHÜRE

Bei den in den Tabellen aufgeführten Beständigkeitsdaten handelt es sich um die höchsten uns bekannten Temperaturen, bei denen sich die DERAKANE und DERAKANE MOMENTUM™ Harze entweder in der Praxis bewährt haben, oder bei denen aus Laborversuchen (nach ASTM C 581) eine gute Lebenserwartung in der Praxis abgeleitet werden kann. Diese entsprechen nicht notwendigerweise den höchsten möglichen Einsatztemperaturen.

Die Daten in den einzelnen Spalten gelten jeweils für alle Harze der selben Produktfamilie (z.B. 411: 411-350, 411-45, 411C-50, etc.). Alle Daten gelten sowohl für Standard DERAKANE, als auch für die neueren DERAKANE MOMENTUM Harze.

Table 1

| | Columns | | | | |
|---|---|------------|--|-------------|-----------------------------------|
| | 411 series | 441 series | 470 series | 510N series | 510A/C series |
| Gültig für DERAKANE Harze | 411-350 411-45 411C-45 411C-50 | 441-400 | 470-300 470-30S 470-36 470-36S 470-45 470HT-400 | 510N | 510A-40 510C-350 510C-350FR |
| Gültig für DERAKANE MOMENTUM Harze | 411-100 411-200 411-350 | 441-400 | 470-300 | | 510C-350 |

Eine Leerstelle in den Tabellen bedeutet, dass bis zur Drucklegung keine spezifischen Daten zur Verfügung standen.

«NR» bedeutet «nicht zu empfehlen», unabhängig von der Temperatur.

«LS» bedeutet «begrenzte Haltbarkeit» (mindestens 3 Tage bis 1 Jahr bei maximal 40°C/100°F). In der Regel eignen sich die entsprechenden Harze in diesen Fällen für Bauteile, die nur in Ausnahmefällen mit den Medien in Berührung kommen, und wenn nach spätestens 3 Tagen eine Reinigung und Inspektion möglich sind.

Diese Broschüre wird laufend überarbeitet. Neue Daten (neue Medien, Konzentrationen, Temperaturgrenzwerte usw.) sind damit schnell verfügbar. Eine Internetversion mit komfortablen Suchmöglichkeiten finden Sie unter www.derakane.com.

Beispiel

| Chemical Environment | DERAKANE Resin | | | | | | |
|--|-----------------|-----|-----|----------------------|--------|------|------|
| | Concentration % | 411 | 441 | 470 | 510A/C | 510N | 8084 |
| Hydrochloric Acid & Dissolved Organics ^{8,9,13} | 0 - 33% HCl | NR | | 65/150 ¹⁵ | | | NR |

⁸ Doppeltes Vlies und eine 5mm Chemieschutzschicht empfohlen

⁹ Doppeltes C-Vlies in der Chemieschutzschicht empfohlen.

¹³ Säurebeständiges Glas sollte in der Chemieschutzschicht und kann im Traglaminat verwendet werden

Gew.-% (wenn nichts anderes angegeben)

nicht zu empfehlen

keine Daten verfügbar

höchste zulässige Temperatur (°C/°F)

¹⁵Eine leichte Verfärbung von reiner Säure kann während der ersten Expositionen auftreten

FUßNOTEN

Die Fußnoten enthalten Informationen, die für eine lange Standzeit der GFK-Bauteile von ausschlaggebender Bedeutung sind. Sie sollten daher unbedingt befolgt werden:

1. In der Chemieschutzschicht sollte ein doppeltes synthetisches Vlies verwendet werden.
2. Eine Nachhärtung wird zur Verlängerung der Standzeit empfohlen.
3. Maximale Standzeit wird durch die Verwendung eines Benzoylperoxid (BPO)/Amin-Härtungssystems mit Nachhärtung erreicht.
4. Empfehlung gültig unter der Bedingung, dass das Harz gegenüber dem Lösungsmittel ebenfalls beständig ist.
5. Beständig bis zur höchsten Temperatur, bei der das Medium noch stabil ist.
6. Es wird empfohlen, sich mit der Ashland Anwendungstechnik in Verbindung zu setzen.
7. Voraussichtlich auch bei höheren Temperaturen beständig (Daten derzeit jedoch nur bis zur angegebenen Temperatur verfügbar).
8. Doppeltes Vlies und 5 mm Chemieschutzschicht empfohlen.
9. Doppeltes C-Vlies in der Chemieschutzschicht empfohlen.
10. Für Reaktionsbehälter werden 441, 411, und 510A/C Harze empfohlen.
11. Innerhalb der Löslichkeitsgrenzen in wässriger Lösung.
12. Säurebeständiges Glas sollte über 50°C in der Chemieschutzschicht und kann im Traglaminat verwendet werden.
13. Säurebeständiges Glas sollte in der Chemieschutzschicht und kann im Traglaminat verwendet werden.
14. Wenn chemische Zusammensetzung unbekannt, ein Sicherheitsdatenblatt des Herstellers anfordern.
15. Eine leichte Verfärbung von reiner Säure kann während der ersten Expositionen auftreten.
16. Der Einsatz des Harzes oberhalb der in manchen Normen erlaubten Grenzen kann die Genehmigung durch die zuständigen Behörden erforderlich machen.

NR: Nicht zu empfehlen

LS: Begrenzte Haltbarkeit, im allgemeinen 3 Tage bis 1 Jahr bei Raumtemperatur (max. 40°C), in der Regel geeignet für Tanktassen, Auffangwannen, etc.

NACHHÄRTUNG

Für eine Einsatztemperatur unter 100°C: Eine Nachhärtung kann die Lebenserwartung verlängern, wenn die Einsatztemperatur innerhalb 20°C unter den Temperaturgrenzen (T_{max} - 20°C) in der Beständigkeitstabelle liegt. Dies bedeutet, dass z.B. beim Einsatz in Lösungsmitteln mit einer Temperaturgrenze von 25 - 40°C eine Nachhärtung immer empfehlenswert ist.

Für eine Einsatztemperatur über 100°C: Eine Nachhärtung im Betrieb kann ausreichend sein, vorausgesetzt, die Mindest-Barcolhärte des jeweiligen Harzes wird vor der Inbetriebnahme erreicht.

Für einen Einsatz in reinen und neutralen Salzlösungen: Eine Nachhärtung ist im allgemeinen nicht notwendig, vorausgesetzt, die Mindest-Barcolhärte des jeweiligen Harzes wird vor der Inbetriebnahme erreicht, und wenn der Acetontest eine klebfreie Oberfläche ergibt.

Eine Nachhärtung von Laminaten, die mit einem BPO/Amin-System gehärtet wurden, wird empfohlen. Die Nachhärtung sollte innerhalb von 2 Wochen nach der Fertigung erfolgen.

Die folgenden in DIN 18820 vorgeschlagenen Nachhärtungsbedingungen sind empfehlenswert:

- Für 411, 441, 510A/C, und 8084 Harze: 80°C/180°F
- Für 470 und 510N Harze: 100°C/210°F
- Diese Norm empfiehlt eine Nachhärtungsdauer von 1 Stunde pro mm Laminat-Wandstärke (zwischen mindestens 5 und maximal 15 Stunden).

Spezialfälle

KEINE BESTÄNDIGKEITSDATEN VERFÜGBAR

Falls diese Broschüre für ein bestimmtes Medium oder für bestimmte Einsatzbedingungen keine Daten enthält, und wenn Ashland aufgrund fehlender Daten keine Empfehlungen aussprechen kann, sollte die Beständigkeit von Testlaminaten unter Betriebs- oder Laborbedingungen untersucht werden. Solche Tests lassen im allgemeinen eine Abschätzung über die zu erwartende Standzeit zu.

BESCHICHTUNGEN (VERSTÄRKT UND UNVERSTÄRKT)

Beschichtungen folgen eigenen physikalischen Gesetzen. Sie können daher – zum Beispiel aufgrund von unterschiedlichen Ausdehnungskoeffizienten – andere Temperaturgrenzen aufweisen als massiver GFK. Es wird daher empfohlen, sich in speziellen Fragen mit der Ashland Anwendungstechnik oder mit einem erfahrenen Anbieter in Verbindung zu setzen.

Laminatbeschichtungen können in Kontakt mit flüssigen Medien haltbarer sein als andere Systeme und sollten aufgrund der besseren Qualität im Handlaminierverfahren und nicht durch Faserspritzen aufgebracht werden. Generell sollten Beschichtungen wegen schwacher oder fehlender Exothermie nachgehärtet werden, wenn immer möglich (siehe auch «Nachhärtung»).

Bei stark diffundierenden Medien (HCl, HF, etc.) ist besondere Vorsicht geboten. Generell gilt: Je dicker die Beschichtung, und je besser sie ausgehärtet ist, desto diffusionsdichter und haltbarer ist sie.

HOHE (RAUCH-) GASTEMPERATUREN (ÜBER 100°C)

Falls für ein heißes gasförmiges Medium ein synthetisches Vlies empfohlen wird, so muss dessen Temperaturbeständigkeit gewährleistet sein. Gegebenenfalls können z.B. Kohlefaservliese eingesetzt werden. Wenn das Medium Wasserdampf und/oder Säuren enthält, so muss durch geeignete Maßnahmen eine Taupunktunterschreitung im Laminatquerschnitt verhindert werden.

KURZZEITIGER KONTAKT MIT AGGRESSIVEN MEDIEN

Wird der GFK nur kurzzeitig oder diskontinuierlich korrosiven Medien ausgesetzt, oder wenn es sich um Dämpfe handelt, so kann auch bei wesentlich höheren Temperaturen (als angegeben), oder in als «NR» klassifizierten Fällen eine gute Standzeit erreicht werden. Dies kann z. B. bei Abflüssen, Böden, Gitterrosten, sowie bei Tragrahmen für Laufstege oder Treppen der Fall sein.

Mischmedien oder Wechselbeanspruchung

Die Daten in dieser Broschüre beziehen sich auf massiven GFK in kontinuierlichem Kontakt mit den jeweiligen Medien (sofern nichts anderes angegeben).

Besondere Vorsicht ist bei Mischmedien angebracht, da (negative) synergetische oder andere Effekte auftreten können, die sich nicht ohne weiteres aus den Einzeldaten in dieser Broschüre ableiten lassen.

Die chemische Beständigkeit kann ebenfalls negativ beeinflusst werden, wenn der GFK für abwechselnde Lagerung oder Transport von unterschiedlichen Medien verwendet wird, insbesondere, wenn diese Medien hinsichtlich ihrer Eigenschaften stark voneinander abweichen, wie z. B. Säuren und Laugen, anorganische und organische Substanzen, etc.

Es wird empfohlen, sich im Zweifelsfalle oder für spezielle Fragen mit Ihrem Fachhändler, der Ashland Anwendungstechnik, oder mit einem unserer Verkaufsbüros in Verbindung zu setzen.

BESTÄNDIGKEITSANFRAGEN

Wird eine Harzempfehlung für korrosive Medien gewünscht, so sollten die folgenden Daten zur Verfügung gestellt werden:

- Chemische Zusammensetzung aller Produkte eines Prozesses oder Ansatzes, mit den zugehörigen Konzentrationen (auch Spuren).
- Betriebstemperatur, sowie die Maximal- und Störfalltemperaturen (mit Zeitdauer).
- Aggregatzustand: Flüssig, gasförmig, fest (Risiko einer Phasentrennung oder Kondensation?).
- Art des Bauteils (GFK-Tank, -Rohr, Beschichtung usw.).

Eine Kopie des umseitigen Vordrucks kann für Beständigkeitsanfragen verwendet werden (bitte per Fax an Ihren Händler oder an die Ashland Anwendungstechnik schicken).

SICHERHEITSHINWEISE

DERAKANE und DERAKANE MOMENTUM™ Harze und Formulierungshilfsmittel können unter Befolgung üblicher Vorschriften zur Arbeitsorganisation und -hygiene von ausgebildetem Fachpersonal sicher verarbeitet werden. Es gelten die gleichen Vorsichtsmaßnahmen wie für styrolverdünnte Polyesterharze.

HINWEIS

Empfehlungen zu Endanwendung und Verarbeitung der DERAKANE und DERAKANE MOMENTUM Harze beruhen auf Erfahrungen der Ashland sowie auf anderen Leistungskennwerten und werden nach bestem Wissen und Gewissen gemacht. Da jedoch Ashland als Harzhersteller keinerlei Kontrolle über die Verarbeitung der DERAKANE und DERAKANE MOMENTUM Harze hat, wird für die Empfehlungen keine Haftung übernommen. Insbesondere übernimmt Ashland keine Haftung für irgendwelche Systeme oder Anwendungen, in denen DERAKANE und DERAKANE MOMENTUM Harze verwendet werden. Pflichten und Haftung der Ashland in bezug auf den Verkauf von DERAKANE und DERAKANE MOMENTUM Harzen bestimmen sich ausschließlich nach dem jeweils zugrundeliegenden Kaufvertrag.

DERAKANE Epoxy Vinyl Ester Resins

VORDRUCK FÜR BESTÄNDIGKEITSANFRAGEN

Bitte schicken sie diesen Vordruck per Fax an +1.614.790.5157 (Amerika) oder +49(0)7851 99478-30 (Europa) oder an Ihren Händler.

Datum: _____ **Seitenzahl:** _____

An _____ **Von** _____

Name: _____ Name: _____

Firma: _____ Firma: _____

Fax: _____ Fax: _____

_____ Tel: _____

Endkunde/Ingenieurfirma/Anlagenbauer/Projekt: _____

Industriezweig/Prozess:
(Chemie, Papier, Erzaufbereitung, Rauchgas...)

Art des Bauteils:
(Tank, Wäscher, Rohr / Kanal, Beschichtung...)

Abmessungen/Leistung:
(Höhe, Durchmesser, Durchsatz...)

Betriebsbedingungen

| Medien | Konzentrationen | | |
|----------|-----------------|--------|---------|
| | Minimum | Normal | Maximum |
| 1) _____ | _____ | _____ | _____ |
| 2) _____ | _____ | _____ | _____ |
| 3) _____ | _____ | _____ | _____ |
| 4) _____ | _____ | _____ | _____ |
| 5) _____ | _____ | _____ | _____ |
| 6) _____ | _____ | _____ | _____ |

HINWEIS: Bitte alle Komponenten angeben, auch solche in Spuren. Wenn der Platz nicht ausreicht, bitte ein separates Blatt oder ein Sicherheitsdatenblatt beifügen.

Temperaturen (°C): normal/Betrieb _____ Störfall _____ für _____ h _____

Druck / Unterdruck: _____ **pH:** normal _____ min. _____ max. _____

Bemerkungen: _____
 (z.B.: außergewöhnliche Prozessbedingungen, Temperaturschwankungen min./max. Konzentrationen, Zugaben und Verdünnungen, neuartige(s) Design oder Bauweise)

German

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|--|-----------------|-------------------------------------|-----------|----------------------|--------------|----------------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Acetaldehyde | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Acetaldehyde | 100 | NR | NR | LS | NR | | NR |
| Acetic Acid | 0.5 - 25 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| Acetic Acid | 26 - 50 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Acetic Acid | 51 - 75 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | |
| Acetic Acid | 76 - 85 | 45/110 | 45/110 | 45/110 | 45/110 | 45/110 | |
| Acetic Acid, Glacial | 100 | NR | NR | 40/100 | NR | NR | NR |
| Acetic Anhydride | 100 | NR | NR | 40/100 | NR | NR | NR |
| Acetic Acid/Nitric Acid/ Chromic Oxide | 3/5/3 | 65/150 | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 |
| Acetic Acid/Sulfuric Acid | 20/10 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| Acetone | 10 | | 80/180 | 80/180 | 80/180 | 80/180 | |
| Acetone | 100 | NR | NR | LS | NR | NR | NR |
| Acetone, Fumes, no condensation or coalescence | Fumes | | | 80/180 | 80/180 | 80/180 | |
| Acetonitrile | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Acetonitrile | 100 | NR | NR | LS | NR | NR | NR |
| Acetonitrile, Fumes, no condensation or coalescence | Fumes | | | 80/180 | 80/180 | 80/180 | |
| Acetyl Acetone | 20 | 40/100 | 40/100 | 50/120 | 40/100 | 50/120 | 40/100 |
| Acetyl Acetone | 100 | NR | NR | LS | NR | NR | NR |
| Acid Cleaner - 31% hydrochloric acid ^{2,8,9,13} | 31 | 65/150 | 70/160 | 80/180 ¹⁵ | 65/150 | 80/180 ¹⁵ | 65/150 |
| Acrolein (Acrylaldehyde) | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Acrolein (Acrylaldehyde) | 100 | NR | NR | LS | NR | NR | NR |
| Acrylamide | 50 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Acrylic Acid ⁷ | 25 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Acrylic Acid | 100 | NR | NR | 40/100 | NR | NR | NR |
| Acrylic Latex | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Acrylonitrile | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Acrylonitrile | 100 | NR | NR | LS | NR | NR | NR |
| Acrylonitrile Latex Dispersion ⁷ | 2 | 25/80 | 25/80 | 25/80 | 25/80 | 25/80 | 25/80 |
| Activated Carbon Beds, Water Treatment | | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | 65/150 |
| Adipic Acid (1.5 g sol. in water at 25°C, sol. hot water) | 23 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Adogen (see Quaternary Amine Salts) Air ¹⁶ | | 180/360 | 210/410 | 230/450 | 195/380 | 210/410 | |
| Alcohol, Amyl | 100 | 50/120 | 60/140 | 65/150 | 50/120 | 60/140 | 50/120 |
| Alcohol, Butyl | 100 | 50/120 | 50/120 | 65/150 | 50/120 | 50/120 | NR |
| Alcohol, Ethyl | 95 | 25/80 | 25/80 | 40/100 | 25/80 | 25/80 | NR |

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|--------------------|-------------------------------------|--------------|--------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Alcohol, Isodecyl | 100 | 50/120 | 65/150 | 80/180 | 50/120 | 65/150 | 50/120 |
| Alcohol, Propyl | 100 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | NR |
| Alkaline Cleaner (see Sodium and Potassium Hydroxides) | | | | | | | |
| Alkaline Solutions (see Sodium, Potassium, and Ammonium Hydroxides, and Carbonates) | | | | | | | |
| Alkane Sulfonate (see Sodium Dodecylbenzene Sulfonate) | | | | | | | |
| Alkyl (C8-C10) Dimethyl Amine | 100 | 80/180 | 95/200 | 100/210 | 80/180 | 95/200 | |
| Alkyl (C8-C18) Chloride | > 0.5 | 80/180 | 95/200 | 100/210 | 95/200 | 100/210 | |
| Alkyl Aryl Sulfonic Acid (see Alkyl Benzene Sulfonic Acid) | | | | | | | |
| Alkyl Benzene Sulfonic Acid ⁶ | > 0.5 | 80/180 | 95/200 | 100/210 | 95/200 | 100/210 | |
| Alkyl Toly Trimethyl Ammonium Chloride | | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | |
| Allyl Alcohol | 100 | NR | NR | 25/80 | NR | NR | NR |
| Allyl Chloride | 100 | 25/80 | 25/80 | 25/80 | 25/80 | 25/80 | NR |
| Alpha-Oleum Sulfates | 100 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Alpha-Methylstyrene | 100 | 25/80 | 40/100 | 50/120 | 25/80 | 40/100 | NR |
| Alum | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Alumina Hydrate | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Aluminum Chloride | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Aluminum Chlorohydrate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Aluminum Chlorohydrate/ Hydrochloric Acid ^{9,10,12} | > 0.5/<15 | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | 65/150 |
| Aluminum Chlorohydroxide | 50 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Aluminum Fluoride | All | 25/80 | 25/80 | 25/80 | 25/80 | 25/80 | 25/80 |
| Aluminum Hydroxide | 100 | 80/180 | 80/180 | 95/200 | 80/180 | 80/180 | 80/180 |
| Aluminum Nitrate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Aluminum Potassium Sulfate | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Aluminum Sulfate | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Aluminum Sulfate Reactor ¹⁰ | > 0.5 | 100/210 | 100/210 | | 100/210 | | |
| AMBITROL* Ethylene Glycol | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |
| Amine Salts | All | 50/120 | 65/150 | 65/150 | 50/120 | 65/150 | |
| Amino Acids | All | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Ammonia | Liquified Gas | NR | NR | NR | NR | NR | NR |
| Ammonia Gas | 100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Ammonia Vapors (Wet) | 40 vol % | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Ammonia, Aqueous (see Ammonium Hydroxide) | | | | | | | |
| Ammonium Acetate | > 0.5 | 25/80 | 25/80 | 40/100 | 25/80 | 25/80 | NR |
| Ammonium Bicarbonate | 0.5 - 50 | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 |

* Dow Chemical

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|--|----------------------------------|-------------------------------------|-----------|-----------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Ammonium Bifluoride ¹ | > 0.5 | 65/150 | 65/150 | 65/150 | | | 65/150 |
| Ammonium Bisulfite Black Liquor | | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Ammonium Bisulfite Cooking Liquor | | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | |
| Ammonium Bromate | 0.5 - 43 | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 |
| Ammonium Bromide | 0.5 - 43 | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 |
| Ammonium Carbonate | > 0.5 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Ammonium Chloride | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Ammonium Citrate | > 0.5 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Ammonium Fluoride ¹ | > 0.5 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Ammonium Hydroxide ¹ | 0.5 - 5 | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 | 80/180 |
| Ammonium Hydroxide ¹ | 6 - 20 | 65/150 | 65/150 | 40/100 | 65/150 | 40/100 | 65/150 |
| Ammonium Hydroxide ¹ | 30 (as NH ₃) | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Ammonium Hydroxide/ Ammonium Chloride/ Ammonium Carbonate ¹ | 30 (as NH ₃) 35/5 | 40/100 | 40/100 | | 40/100 | 40/100 | 40/100 |
| Ammonium Lauryl Sulfate | 0.5 - 30 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 |
| Ammonium Ligno Sulfonate | 0.5 - 50 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Ammonium Molybdate | > 0.5 | 65/150 | | | | | 65/150 |
| Ammonium Nitrate | Sat'd | 100/210 | 65/150 | 65/150 | 105/220 | 120/250 | 80/180 |
| Ammonium Oxalate | > 0.5 | 65/150 | 65/150 | | | | |
| Ammonium Pentaborate | 0.5 - 12 | 50/120 | 50/120 | | | | 50/120 |
| Ammonium Perchlorate | 0.5 - 15 | 75/170 | | | | | |
| Ammonium Persulfate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Ammonium Phosphate, dibasic | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Ammonium Phosphate, monobasic | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Ammonium Polysulfide | > 0.5 | 50/120 | 50/120 | 65/150 | | | 50/120 |
| Ammonium Sulfate | Sat'd | 100/210 | 120/250 | 120/250 | 105/220 | 120/250 | 80/180 |
| Ammonium Sulfate/ Ethyl Alcohol/Ethoxylate | 60/15/3 | 40/100 | 50/120 | 65/150 | 40/100 | 50/120 | 40/100 |
| Ammonium Sulfide (Bisulfide) | Sat'd | 50/120 | 50/120 | 50/120 | | | 50/120 |
| Ammonium Sulfite | Sat'd | 65/150 | 65/150 | 65/150 | 65/150 | | 65/150 |
| Ammonium Thiocyanate | 0.5 - 20 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Ammonium Thiocyanate | Sat'd | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Ammonium Thioglycolate | All | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Ammonium Thiosulfate | All | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 | |
| Amyl Acetate | > 0.5 | 20/70 | 40/100 | 50/120 | | | |
| Amyl Alcohol | 100 | 50/120 | 60/140 | 65/150 | 50/120 | 60/140 | 50/120 |
| Amyl Alcohol, Vapor | 100 | 50/120 | 100/210 | 100/210 | 50/120 | 100/210 | |
| Amyl Chloride | 100 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Aniline | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Aniline | 100 | NR | NR | 20/70 | NR | NR | NR |
| Aniline Hydrochloride | > 0.5 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Aniline Sulfate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |

* Dow Chemical

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|--------------------|-------------------------------------|--------------|--------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Animal Fat | 100 | 80/180 | 100/210 | | | | |
| Anionic Surfactant | All | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | |
| Anionic/Cationic Polymer Emulsions in Kerosene or Petroleum Distillates/Water | 0 - 50 | 40/100 | 50/120 | 50/120 | | | |
| Anodize (15% Sulfuric acid) | | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |
| Antimony Pentachloride, for aqueous solutions (see Hydrochloric Acid) | > 99 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Aqua Regia ⁶ | | | | | | | |
| Armeen* H.T. Amines (C8-C18) | 100 | 40/100 | 40/100 | | | | |
| Aromatic Naphtha/ Naphthalene/Isopropanol | 60/5/10 | | 50/120 | 50/120 | | 50/120 | |
| Arsenic Acid | > 0.5 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Arsenic Acid/Copper Sulfate/ Sodium Dichromate | 17/37/20 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Arsenic Pentoxide/ Copper Oxide/Chromic Acid | 17/9/24 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Arsenious Acid | 19°Be | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Barium Acetate | > 0.5 | 80/180 | 80/180 | 80/180 | | 80/180 | |
| Barium Bromide | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Barium Carbonate (slurry) | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Barium Chloride | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Barium Cyanide | > 0.5 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Barium Hydroxide | > 0.5 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Barium Sulfate | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Barium Sulfide | > 0.5 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Barley Solution | > 0.5 | 75/170 | 75/170 | NR | NR | NR | NR |
| Beer | > 0.5 | 50/120 | 50/120 | NR | NR | NR | NR |
| Beet Sugar Liquor | > 0.5 | 80/180 | 80/180 | NR | NR | NR | NR |
| o-Benzoyl Benzoic Acid | All | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| Benzaldehyde | 100 | NR | NR | 20/70 | NR | NR | NR |
| Benzalkonium Chloride | Dilute | 40/100 | 40/100 | | | | 40/100 |
| Benzene | 100 | NR | NR | 40/100 | NR | LS | NR |
| Benzene, 120°F | 100 | NR | NR | 50 LS/120 LS | NR | 50 LS/120 LS | NR |
| Benzene Sulfonic Acid ⁶ | > 0.5 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Benzene, Vapor | | 25/80 | 25/80 | 50/120 | NR | 25/80 | NR |
| Benzene/Methyl Tertiary Butyl Ether | 80/20 | NR | NR | 40/100 | NR | LS | NR |
| Benzene/Ethylbenzene/ Toluene/Trimethylbenzene/ Xylene | All | NR | NR | 40/100 | NR | LS | NR |
| Benzene/Ethylbenzene | 33/67 | NR | 25/80 | 40/100 | NR | 25/80 | NR |
| Benzoic Acid | Sat'd | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Benzyl Alcohol | 20 | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | 40/100 |

* Akzo Nobel

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|-----------------|-------------------------------------|-----------|---------------------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Benzyl Alcohol | 100 | NR | 25/80 | 40/100 | NR | 25/80 | NR |
| Benzyl Chloride | 100 | NR | NR | 25/80 | NR | NR | NR |
| Benzyltrimethylammonium Chloride | 60 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Black Liquor (Pulp & Kraft Mill) ^{1,2} | Thin | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Black Liquor (Pulp & Kraft Mill) Thick, Heavy ^{1,2} | Thick | 95/200 | 105/220 | 105/220 | 105/220 | 105/220 | |
| Black Liquor Recovery, Furnace Gases ^{6,16} | | 165/325 | 175/350 | 205/400 | 165/325 | 175/350 | |
| Blow Down (Non-Condensable Gases from Pulp Digester, i.e., Dimethyl Sulfide and Mercaptanes) ⁸ | | 120/250 | 120/250 | 120/250 | 120/250 | 120/250 | |
| Borax | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Boric Acid | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Boron Trichloride Scrubbing | > 0.5 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | |
| Brake Fluids | 100 | 50/120 | 50/120 | 50/120 ⁷ | 50/120 | 50/120 | 50/120 |
| Brass Plating Solution: 3% Copper, 1% Zinc, 5.6% Sodium Cyanides, 3.0% Sodium Carbonate ¹ | | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Brine Mixture (0.4% MgSO ₄ , 9.5% NaCl, 5.0% Na ₂ SO ₄ , 2.0% K ₂ SO ₄ , 7% CaSO ₄ /2H ₂ O, 3% Na ₂ SO ₃ /9H ₂ O, pH 7) | | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Brine, Chlorinated (see Chlorinated Brine) | | | | | | | |
| Brine, Salt | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Brine, Salt | Sat'd | 100/210 | 120/250 | 120/250 | 110/230 | 120/250 | 80/180 |
| Brominated Phosphate Ester | > 0.5 | | | 50/120 | | | |
| Bromine, Dry Gas | 100 | 40/100 | 40/100 | 40/100 ⁷ | 40/100 | 40/100 | 40/100 |
| Bromine, Liquid | 100 | NR | NR | NR | NR | NR | NR |
| Bromine, Wet Gas | 100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Brown Stock | | 95/200 | 95/200 | 80/180 | 95/200 | 80/180 | |
| Bunker C Fuel Oil (heavy fraction) | 100 | 100/210 | 105/220 | 105/220 | 100/210 | 105/220 | 65/150 |
| Butadiene (Gas) ² | 100 | 45/110 | 45/110 | 45/110 | 45/110 | 45/110 | 45/110 |
| Butane | 100 | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 |
| Butanol | 100 | 50/120 | 50/120 | 65/150 | 50/120 | 50/120 | NR |
| 2,2-Butoxyethoxyethanol (DOWANOL* DB) | 100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | NR |
| 2-Butoxyethanol (DOWANOL EB) | 20 | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | 40/100 |
| 2-Butoxyethanol (DOWANOL EB) | 100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | NR |
| Butyl Acetate | 100 | NR | 25/80 | 30/90 | NR | 25/80 | NR |
| Butyl Acrylate | 100 | NR | NR | 25/80 | NR | NR | NR |

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|--------------------|-------------------------------------|--------------|--------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Butyl Alcohol | 100 | 50/120 | 50/120 | 65/150 | 50/120 | 50/120 | NR |
| Butyl Alcohol/Benzene | 93/4 | NR | 40/100 | 50/120 | NR | 40/100 | NR |
| Butyl Amine | 100 | NR | NR | LS | NR | NR | NR |
| Butyl Benzoate | 70 | | | 40/100 | | | |
| Butyl Benzyl Phthalate | 100 | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | |
| Butyl Carbitol, Diethylene Glycol Butyl Ether (DOWANOL DB) | 100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Butyl CELLOSOLVE* Solvent (DOWANOL EB) | 100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Butyl Chloride | 0.1 - 100 | NR | LS | 25/80 | NR | LS | NR |
| Butyl Hypochlorite | 98 | NR | NR | NR | NR | NR | NR |
| Butyl Stearate (5% in Mineral Spirits) | | 40/100 | 40/100 | | | | |
| Butylene Glycol | 100 | 70/160 | 80/180 | 80/180 | 70/160 | 80/180 | |
| Butylene Oxide | 100 | NR | NR | LS | NR | NR | NR |
| Butyraldehyde | 100 | NR | NR | 40/100 | NR | NR | NR |
| Butyric Acid | 0.5 - 50 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |
| Butyric Acid | 100 | 25/80 | 50/120 | 50/120 | 25/80 | 50/120 | |
| Cadmium Chloride | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Cadmium Cyanide Plating Bath, (3% Cadmium Oxide, 10% Sodium Cyanide, 1.2% Sodium Hydroxide) ¹ | | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Calcium Bisulfite | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Calcium Bromide | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Calcium Carbonate (slurry) | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Calcium Chlorate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Calcium Chloride | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Calcium Chloride | Sat'd | 100/210 | 120/250 | 120/250 | 105/220 | 120/250 | 80/180 |
| Calcium Hydroxide ¹ | 100 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Calcium Hydroxide Slurry ¹ | 0.5 - 25 | 80/180 | 65/150 | 40/100 | 80/180 | 65/150 | 65/150 |
| Calcium Hypochlorite ^{1,2,3,5} | All | 80/180 | 80/180 | 40/100 | 80/180 | 80/180 | 80/180 |
| Calcium Nitrate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Calcium Sulfate Slurry | All | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Calcium Sulfite | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Calgon** (Product E) Sodium Hexametaphosphate | All | 50/120 | 50/120 | | | | |
| Cane Sugar Liquor & Sweetwater | All | 80/180 | 80/180 | | | | |
| Capric Acid (Decanoic Acid) ⁴ | > 0.5 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Capric Acid/Lauric Acid/ Fatty Acids (C10-C18) | 70/15/15 | 80/180 | 80/180 | 95/200 | 80/180 | 80/180 | 80/180 |
| Caproic Acid (Hexanoic Acid) | 100 | 25/80 | 50/120 | 50/120 | 25/80 | 50/120 | 25/80 |
| Caprolactam | 0 - 50 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |

* Union Carbide

** Calgon Corporation

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|--|-----------------------|-------------------------------------|-----------|-----------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Caprolactam | 100 | NR | NR | LS | NR | NR | NR |
| Caprolactone | 100 | NR | NR | LS | NR | NR | NR |
| Caprylic Acid (Octanoic Acid) | 100 | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | |
| Caramel | All | 50/120 | 50/120 | | | | |
| Carbon Dioxide Gas ¹⁶ | All | 165/325 | 175/350 | 205/400 | 165/325 | 175/350 | 80/180 |
| Carbon Disulfide | 100 | NR | NR | LS | NR | NR | NR |
| Carbon Disulfide Fumes, no condensation or coalescence | All | 40/100 | 65/150 | 65/150 | 40/100 | 65/150 | NR |
| Carbon Monoxide Gas ¹⁶ | All | 165/325 | 175/350 | 205/400 | 165/325 | 175/350 | 80/180 |
| Carbon Tetrachloride | 100 | 65/150 | 80/180 | 80/180 | 65/150 | 80/180 | |
| Carbon Tetrachloride, Vapor | All | 80/180 | 95/200 | 95/200 | 80/180 | 95/200 | |
| CARBOWAX* Polyethylene Glycol | 100 | 65/150 | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 |
| Carboxyethyl Cellulose | 10 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Cascade** Detergent in Solution | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Cashew Nut Oil | 100 | 65/150 | 65/150 | | | | |
| Castor Oil (Ricinus Oil) | 100 | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 |
| Cationic/Anionic Polymer Emulsions in Kerosene or Petroleum Distillates/Water | 0 - 50 | 40/100 | 50/120 | 50/120 | | | |
| Caustic (see Sodium Hydroxide) | | | | | | | |
| Cetyl Alcohol (Hexadecanol) | 100 | 65/150 | 80/180 | 80/180 | 65/150 | 80/180 | 50/120 |
| Chlordimeform (Galecron*** Insecticide) | 100 | 25/80 | 50/120 | 50/120 | 25/80 | 50/120 | |
| Chloric Acid | All | 25/80 | 25/80 | 25/80 | 25/80 | 25/80 | 25/80 |
| Chlorinated Brine, pH < 2.5 | Sat'd Cl ₂ | 80/180 | 80/180 | 95/200 | 80/180 | 95/200 | |
| Chlorinated Brine, pH > 9 (Hypochlorite) ^{1,2,3} | Sat'd Cl ₂ | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 | |
| Chlorinated Brine, pH 2.5-9 ⁶ | Sat'd Cl ₂ | LS | LS | LS | LS | LS | LS |
| Chlorinated Pulp ⁶ | All | 80/180 | 90/195 | 95/200 | 90/195 | 95/200 | |
| Chlorinated Solvent Recovery (see Specific Solvents) | | | | | | | |
| Chlorinated Wax | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Chlorination Washer (Hoods & Vent Systems) | Vapors, All | 80/180 | 95/200 | 95/200 | 80/180 | 95/200 | 65/150 |
| Chlorine Dioxide Generator Effluent, R2 System | | 65/150 | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 |
| Chlorine Dioxide Scrubber ^{1,2,3} | | 75/170 | 75/170 | | 75/170 | | |
| Chlorine Dioxide, Chlorine (Bleaching Solution, with or without Pulp) ⁶ | All | 80/180 | 90/195 | 95/200 | 90/195 | 95/200 | |

* Union Carbide
** Procter & Gamble
*** Ciba-Geigy

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|--------------------|-------------------------------------|--------------|-----------------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Chlorine Dioxide, No Chlorine (Bleaching Solution, with or without Pulp) ⁶ | All | 80/180 | 90/195 | 95/200 | 90/195 | 95/200 | |
| Chlorine Dioxide, Solution Storage | Sat'd | 20/70 | 20/70 | 20/70 | 20/70 | 20/70 | |
| Chlorine Water, pH < 2.5 | Sat'd Cl2 | 80/180 | 80/180 | 95/200 | 80/180 | 95/200 | |
| Chlorine Water, pH > 9 (Hypochlorite) ^{1,2,3} | Sat'd Cl2 | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 | |
| Chlorine Water, pH 2.5-9 ⁶ | Sat'd Cl2 | LS | LS | LS | LS | LS | LS |
| Chlorine, Dry Gas ^{2,8} | 100 | 100/210 | 105/220 | 120/250 | 105/220 | 120/250 | 80/180 |
| Chlorine, Wet Gas ^{2,8} | 100 | 100/210 | 105/220 | 120/250 | 105/220 | 120/250 | 80/180 |
| Chlorine/Chlorine Dioxide/ Sulfur Dioxide | 0.8/2/0.7 | 95/200 | 95/200 | 95/200 | 95/200 | 95/200 | 80/180 |
| Chlorine-Hydrogen Chloride, with Aqueous Condensate ^{8,9,12,16} | 8 - 10% HCl | 80/180 | 100/210 | 100/210 175/350 LS | 80/180 | 100/210 | 80/180 |
| Chloroacetic Acid | 0 - 25 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Chloroacetic Acid | 26 - 50 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Chloroacetic Acid | 51 - 79 | 25/80 | 25/80 | 30/90 | 25/80 | 30/90 | |
| Chloroacetic Acid | 80 - 85 | 25/80 | 25/80 | 25/80 | 25/80 | 25/80 | |
| Chloroacetic Acid | 86 - 100 | NR | NR | LS | NR | NR | NR |
| Chlorobenzene | 100 | NR | 25/80 | 40/100 | NR | 25/80 | NR |
| Chloroform | 100 | NR | NR | LS | NR | NR | NR |
| Chloroform, Fumes, No Condensation or Coalescence | Fumes | | | 80/180 | 80/180 | 80/180 | |
| Chloroform/Dichloroethane/ Methylene Chloride | All | NR | NR | LS | NR | NR | NR |
| Chloropentane (1 to 5 Cl) | 100 | 40/100 | 50/120 | 55/130 | 40/100 | 50/120 | NR |
| Chloropicrin (Nitrochloroform) | 100 | NR | NR | LS | NR | NR | NR |
| Chloropyridine (tetra) | 100 | 25/80 | 50/120 | 50/120 | 25/80 | 50/120 | NR |
| Chlorosulfonic Acid | 10 | NR | NR | NR | NR | NR | NR |
| CHLOROTHENE* SM (1,1,1-Trichloroethane inhibited) | 100 | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | NR |
| Chlorotoluene | 100 | 25/80 | 40/100 | 40/100 | 25/80 | 40/100 | NR |
| N-Chloro-o-Tolyl (Insecticide Emulsion) | 10 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Choline Chloride | > 0.5 | 50/120 | 65/150 | 65/150 | 50/120 | 65/150 | 50/120 |
| Chrome Bath, 19% Chromic Acid with Sodium Fluorosilicate and Sulfate ¹ | | 50/120 | 50/120 | 65/150 | 50/120 | 50/120 | 50/120 |
| Chrome Reduction Process ⁶ | 25 | 90/190 | | | 90/190 | | |
| Chromic Acid | 0.5 - 10 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Chromic Acid | 11 - 20 | 50/120 | 65/150 | 65/150 | 65/150 | 65/150 | 50/120 |

* Dow Chemical

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|-----------------|-------------------------------------|-----------|-----------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Chromic Acid | 30 | LS | LS | LS | LS | LS | |
| Chromic Acid | 40 | NR | NR | LS | NR | NR | |
| Chromic Acid/ Sodium Metabisulfite | 15/45 | 50/120 | 65/150 | 65/150 | 65/150 | 65/150 | 50/120 |
| Chromic Acid/Nitric Acid Mixture | 5/10 | 40/100 | 50/120 | 65/150 | 40/100 | 40/100 | 40/100 |
| Chromic Acid/Sulfuric Acid Mixture (Maximum Total Concentration 10%) | 10 | 50/120 | 65/150 | 65/150 | 50/120 | 65/150 | 50/120 |
| Chromium Plate, Electroplating with a Salt Solution (with Sulfuric Acid: Not Recommended) | | 55/130 | 55/130 | 55/130 | 55/130 | 55/130 | 55/130 |
| Chromium Sulfate (water soluble forms) | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Citric Acid | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| Clopidol (Coyden*) ⁴ | All | | | 40/100 | | 40/100 | |
| Cobalt Chloride | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Cobalt Chloride Reactor (Hydrochloric/Sulfuric Acid) ¹⁰ | 40 | | 95/200 | | | | |
| Cobalt Citrate | 12 | 80/180 | 80/180 | 80/180 | | | 50/120 |
| Cobalt Nitrate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Coconut Oil | 100 | 80/180 | 95/200 | 95/200 | 80/180 | 95/200 | 80/180 |
| Cod-liver Oil | 100 | 40/100 | 40/100 | | | | |
| Copper Chloride | Sat'd | 100/210 | 120/250 | 120/250 | 105/220 | 120/250 | 80/180 |
| Copper Chloride/Ammonium Chloride/Ammonium Hydroxide (see Ammonium Hydroxide) | 26/5/2 | | | | | | |
| Copper Cyanide | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Copper Cyanide Plating Bath (10.5% Copper and 14% Sodium Cyanides; 6% Rochelle Salts) | | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 |
| Copper Cyanide/ Potassium Cyanide/ Potassium Hydroxide ¹ | 7/2.5/2% | 65/150 | 40/100 | 25/80 | 65/150 | 25/80 | |
| Copper Matte Dipping Bath, (30% FeCl ₃ , 19% Hydrochloric acid) ^{8,9,13} | | 80/180 | 95/200 | 95/200 | 95/200 | 95/200 | 80/180 |
| Copper Nitrate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Copper Plating Solution (45% Cu(BF ₄) ₂ ; 19% Copper Sulfate; 8% Sulfonic) ¹ | | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Copper Sulfate | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Corn Oil | 100 | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | 65/150 |
| Corn Starch | Slurry | 100/210 | 100/210 | | | | |
| Corn Sugar/Syrup (Glucose) | All | 80/180 | 80/180 | | | | |
| Cottonseed Oil | 100 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| Crude Oil, Sweet, Sour | 100 | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 65/150 |
| Cumene | 100 | 25/80 | 50/120 | 50/120 | 25/80 | 50/120 | 25/80 |

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|--|--------------------|-------------------------------------|--------------|--------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Cumene/Toluene/Xylene | All | 25/80 | 40/100 | 50/120 | 25/80 | 50/120 | NR |
| Curpric Chloride, (see Copper Chloride) | | | | | | | |
| Cyanide Disposal (Reaction with Hypo gives Sodium Thiosulfite) | | | 40/100 | 40/100 | | | |
| Cyanuric Acid | All | 25/80 | 40/100 | 50/120 | 25/80 | 40/100 | |
| Cyanuric Chloride ⁴ | All | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 |
| Cyclohexane | 100 | 50/120 | 65/150 | 65/150 | 50/120 | 65/150 | |
| Cyclohexylamine | 100 | | LS | 40/100 | | LS | |
| Cyclopentane | 100 | 40/100 | 45/110 | 50/120 | 40/100 | 45/110 | |
| Dalapon Grass Killer (2,2-dichloropropionic acid and sodium salt) | 100 | NR | 25/80 | 40/100 | NR | 25/80 | NR |
| Decanoic Acid ⁴ | > 0.5 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Decanol | 100 | 50/120 | 65/150 | 80/180 | 50/120 | 65/150 | |
| Deionized Water ² | 100 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Demineralized Water ² | 100 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Detergents, Organic | 100 | 70/160 | 80/180 | 95/200 | 70/160 | 80/180 | 70/160 |
| De-waxed Paraffin Distillate | 100 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Diacetone Alcohol | 10 | | 40/100 | 50/120 | 40/100 | 50/120 | |
| Diacetone Alcohol | 100 | NR | NR | LS | NR | NR | NR |
| Diallyl Phthalate | All | 80/180 | 100/210 | 100/210 | | 100/210 | 65/150 |
| Diammonium Phosphate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Dibasic Acid (51-61% Glutaric Acid, 18-28% Succinic Acid, 15-25% Adipic Acid, 2% Nitric Acid) | > 0.5 - 50 | 80/180 | 95/200 | 95/200 | 80/180 | 95/200 | 80/180 |
| Dibromonitrilo-Propionamide | 100 | NR | 25/80 | 40/100 | NR | 25/80 | NR |
| Dibromophenol | 100 | NR | 40/100 | 40/100 | NR | 40/100 | NR |
| Dibromopropane | 100 | NR | 25/80 | 40/100 | NR | 25/80 | NR |
| Dibromopropanol | 100 | | | 40/100 | | | |
| Dibutyl Carbitol (diethylene glycol dibutyl ether) | 100 | 25/80 | 40/100 | 40/100 | 25/80 | 40/100 | |
| Dibutyl Ether | 100 | 25/80 | 50/120 | 80/180 | | 65/150 | |
| Dibutyl Sebacate | 100 | 50/120 | 65/150 | 65/150 | | 65/150 | |
| Dibutyl Phthalate | 100 | 80/180 | 80/180 | 100/210 | | 80/180 | |
| 2,4-Dichlorophenoxyacetic Acid (Acid, Salts, Esters and Formulations) ⁴ | | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Dichloroacetic Acid, (see Chloroacetic Acid) | | | | | | | |
| Dichlorobenzene (ortho and para) | 100 | NR | 40/100 | 50/120 | NR | 40/100 | NR |
| Dichloroethane | 100 | NR | NR | 25/80 | NR | NR | NR |
| Dichloroethylene | 100 | NR | NR | LS | NR | NR | NR |
| Dichloromethane (Methylene Chloride) | 100 | NR | NR | LS | NR | NR | NR |
| Dichloropropane | 100 | NR | 25/80 | 40/100 | NR | 25/80 | NR |

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|-----------------|-------------------------------------|-----------|-----------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Dichloropropene | 100 | NR | NR | 25/80 | NR | NR | NR |
| Dichloropropionic Acid (see also Dalapon) | 100 | NR | 25/80 | 40/100 | NR | 25/80 | NR |
| Dichlorotoluene | 100 | 25/80 | 50/120 | 50/120 | 25/80 | 50/120 | NR |
| Diesel Fuel | 100 | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | 65/150 |
| Diethanolamine | 100 | 50/120 | 50/120 | 65/150 | 50/120 | 50/120 | |
| Diethanolamine/Ethanolamine | 80/20 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Diethyl Carbonate | 100 | NR | 25/80 | 40/100 | NR | 25/80 | NR |
| Diethyl Ether | 100 | NR | NR | NR | NR | NR | NR |
| Diethyl Formamide | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | NR |
| Diethyl Formamide | 100 | NR | LS | 40/100 | NR | LS | NR |
| Diethyl Hydroxylamine | 100 | NR | NR | LS | NR | NR | |
| Diethyl Ketone | 20 | 40/100 | 45/110 | 50/120 | 40/100 | 40/100 | 40/100 |
| Diethyl Ketone | 100 | NR | NR | 25/80 | NR | NR | NR |
| Diethyl Sulfate | 100 | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | |
| Diethylamine | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | NR |
| Diethylamine | 100 | NR | NR | LS | NR | NR | NR |
| Diethylaminoethanol | 100 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | 40/100 |
| Diethylbenzene | 100 | 40/100 | 65/150 | 65/150 | 40/100 | 65/150 | NR |
| Diethylene Glycol | 100 | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | 80/180 |
| Diethylene Glycol Dimethylether | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | NR |
| Diethylene Glycol Dimethylether | 100 | NR | NR | 25/80 | NR | NR | NR |
| Diethylenetriaminepentaacetic Acid | All | 40/100 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Diethylenetriaminepentaacetic Acid, sodium salt | 40 | 40/100 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Di-2-Ethylhexyl Phosphoric Acid (DEHPA) in Kerosene | 20 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Diglycolamine (Aminoethoxyethanol) | 20 | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | 40/100 |
| Diglycolamine (Aminoethoxyethanol) | 50 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Diglycolamine (Aminoethoxyethanol) | 100 | NR | NR | LS | NR | NR | NR |
| Diisobutyl Ketone | 100 | NR | 50/120 | 50/120 | NR | 50/120 | NR |
| Diisobutyl Phthalate | 100 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | |
| Diisobutylene | 100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 25/80 |
| Diisonoyl Phthalate | 100 | 65/150 | 100/210 | 100/210 | 65/150 | 100/210 | 65/150 |
| Diisopropanolamine | 100 | 50/120 | 50/120 | 65/150 | 50/120 | 50/120 | 40/100 |
| Dimethyl Acetamide | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | NR |
| Dimethyl Acetamide | 100 | NR | NR | LS | NR | NR | NR |
| Dimethyl Acetamide, Fumes, no condensation or coalescence | Fumes | | | 80/180 | 80/180 | 80/180 | |

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|--------------------|-------------------------------------|--------------|---------------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Dimethyl Amine | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Dimethyl Amine | 40 | LS | LS | LS | LS | LS | NR |
| Dimethylammonium Hydrochloride (Dimethylamine HCl, DMA-HCl) | 70 | 40/100 | 40/100 | 50/120 ⁷ | 40/100 | 40/100 | 40/100 |
| Dimethyl Aniline | 100 | NR | LS | 40/100 | NR | 25/80 | LS |
| Dimethyl Formamide | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Dimethyl Formamide | 100 | NR | NR | LS | NR | NR | NR |
| Dimethyl Formamide, Fumes, no condensation or coalescence | Fumes | | | 80/180 | 80/180 | 80/180 | |
| Dimethyl Morpholine | 100 | NR | 25/80 | 50/120 | NR | 25/80 | NR |
| Dimethyl Phthalate | 100 | 65/150 | 80/180 | 80/180 | 65/150 | 80/180 | |
| Dimethyl Sulfate | 20 | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | 40/100 |
| Dimethyl Sulfate | 100 | NR | LS | LS | NR | NR | NR |
| Dimethyl Sulfide | 100 | NR | LS | 25/80 | NR | 25/80 | NR |
| Dimethyl Sulfoxide | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Dimethyl Sulfoxide | 100 | NR | LS | LS | NR | NR | NR |
| Dimethyl Sulfoxide (DMSO) - Water Solution | 20 | | | 20/70 | | | |
| 2,2-Dimethyl Thiazolidine | 1 | 65/150 | 80/180 | 80/180 | 65/150 | 80/180 | |
| Dimethylcarbonate | 100 | NR | NR | NR | NR | NR | NR |
| Dimethylformamide/ Acetonitrile/Methanol | 26/9/7 | NR | NR | LS | NR | NR | NR |
| Diocetyl Phthalate | 100 | 65/150 | 100/210 | 100/210 | 65/150 | 100/210 | 65/150 |
| Diphenyl Oxide (Diphenyl Ether, Phenyl Ether) | 100 | 25/80 | 40/100 | 50/120 | 25/80 | 50/120 | NR |
| Dipotassium Phosphate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Dipropylene Glycol | 100 | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | 65/150 |
| Dipropylene Glycol Monomethyl Ether (DOWANOL DPM) | 20 | 40/100 | 50/120 | 65/150 | 50/120 | 65/150 | 40/100 |
| Dipropylene Glycol Monomethyl Ether (DOWANOL DPM) | 100 | NR | LS | 20/70 | NR | NR | NR |
| Distilled Water ² | 100 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Divinylbenzene | 100 | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | NR |
| DMA 4 Weed Killer 2,4-D | 100 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| DMA 6 Weed Killer | 100 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Dodecanol (Lauryl Alcohol) | 100 | 65/150 | 80/180 | 80/180 | 65/150 | 80/180 | 50/120 |
| Dodecene | 100 | 65/150 | 80/180 | 80/180 | 65/150 | 80/180 | 50/120 |
| Dodecyl Benzene Sulfonic Acid ⁶ | 100 | 80/180 | 95/200 | 100/210 | 95/200 | 100/210 | |
| Dodecyl Benzene Sulfonic Acid/ Sulfuric Acid/Water/Oil | 85/10/4/1 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Dodecyldimethylamine | 100 | 80/180 | 95/200 | 100/210 | 80/180 | 95/200 | |
| Dodecylmercaptan | 100 | 80/180 | 95/200 | 100/210 | 80/180 | 95/200 | |
| DOWANOL DB Glycol Ether | 100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | NR |

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|-----------------|-------------------------------------|-----------|-----------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| DOWANOL EB Glycol Ether (Ethylene Glycol n-butyl ether) | 100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | NR |
| DOWANOL PM Glycol Ether | 100 | NR | LS | 20/70 | NR | NR | NR |
| DOWANOL DPM (Dipropylene Glycol Monomethyl Ether) | 100 | NR | LS | 20/70 | NR | NR | NR |
| DOWANOL DB Diethylene Glycol n-Butyl Ether (see also Butyl CARBITOL*) | 100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | NR |
| DOWCLENEX* EC Solvent | | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | |
| DOWCLENEX Solvent | 100 | 50/120 | 50/120 | 50/120 | 50/120 | | |
| DOWEX* 50WX4 Ion Exchange Resin | | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |
| DOWFAX* 2A1 Surfactant | All | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| DOWFAX 2AO Solution Surfactant | All | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| DOWICIDE* Antimicrobial | All | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| DOWTHERM* Heat Transfer Agent | 100 | 50/120 | 65/150 | 65/150 | 50/120 | 65/150 | |
| Electrosol™ Antistatic Agent (Petroleum naphtha, heavy alkylate) | All | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | |
| Epichlorohydrin | 100 | LS | LS | 25/80 | NR | NR | NR |
| Epoxidized Castor Oil | 100 | 40/100 | 40/100 | | | | 40/100 |
| Epoxidized Soybean Oil | 100 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Esters, Fatty Acid | 100 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Ethanol (Ethyl Alcohol) | 10 | 50/120 | 50/120 | 65/150 | 50/120 | 50/120 | 50/120 |
| Ethanol (Ethyl Alcohol) | 50 | 40/100 | 40/100 | 65/150 | 40/100 | 40/100 | NR |
| Ethanol (Ethyl Alcohol) | 90 - 95 | 25/80 | 25/80 | 40/100 | 25/80 | 25/80 | NR |
| Ethanol (Ethyl Alcohol) | 100 | NR | LS | 40/100 | NR | 25/80 | NR |
| Ethanol, Fumes, no condensation or coalescence | Fumes | 65/150 | 65/150 | 80/180 | 80/180 | 80/180 | 65/150 |
| Ethanol/Ethylacetate/ Methanol/DMF | 35/29/10/10 | NR | NR | LS | NR | NR | NR |
| Ethanolamine | 20 | 40/100 | 45/110 | 50/120 | 40/100 | 50/120 | |
| Ethanolamine | 100 | 25/80 | 30/90 | 40/100 | 25/80 | 30/90 | NR |
| Ethephon | 100 | | 40/100 | 40/100 | | | |
| Ethoxy Acetic Acid | 10 | | 40/100 | 40/100 | | 40/100 | |
| Ethoxy Acetic Acid | 100 | NR | NR | LS | NR | NR | NR |
| Ethoxylated Alcohol, C12-C14 | 100 | 25/80 | 40/100 | 50/120 | 25/80 | 40/100 | |
| Ethoxylated Nonyl Phenol | 100 | NR | LS | 40/100 | NR | LS | NR |
| Ethyl Acetate | 100 | NR | LS | 25/80 | NR | LS | NR |

* Dow Chemical

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|--|--------------------|-------------------------------------|--------------|--------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Ethyl Acetate, Fumes, no condensation or coalescence | Fumes | | | 80/180 | 80/180 | 80/180 | |
| Ethyl Acetate/Sodium Hydroxide ^{1,2} | 4/0 - 50 | 50/120 | 50/120 | 40/100 | 50/120 | 40/100 | |
| Ethyl Acrylate | 100 | NR | LS | 25/80 | NR | 20/70 | NR |
| Ethyl Amine | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Ethyl Amine | 70 | NR | NR | LS | NR | NR | NR |
| Ethyl Bromide | 100 | NR | LS | LS | NR | LS | NR |
| Ethyl Chloride | 100 | NR | LS | 25/80 | NR | 25/80 | NR |
| Ethyl Ether | 100 | NR | NR | NR | NR | NR | NR |
| Ethyl Sulfate | 100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| 2-Ethylhexyl Alcohol | 100 | 65/150 | 70/160 | 80/180 | 70/160 | 80/180 | 50/120 |
| Ethyl-3-Ethoxy Propionate | 100 | NR | LS | 25/80 | NR | LS | NR |
| Ethylbenzene | 100 | 25/80 | 40/100 | 50/120 | 25/80 | 40/100 | |
| Ethylbenzene/Benzene | 67/33 | NR | 25/80 | 40/100 | NR | 25/80 | NR |
| Ethylene Chloride (see Dichloroethane) | 100 | NR | NR | 25/80 | NR | NR | NR |
| Ethylene Chlorohydrin | 20 | 40/100 | 50/120 | 65/150 | 50/120 | 65/150 | 40/100 |
| Ethylene Chlorohydrin | 100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | NR |
| Ethylene Diamine | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Ethylene Diamine | 100 | NR | NR | LS | NR | NR | NR |
| Ethylene Dibromide | 100 | NR | NR | NR | NR | NR | NR |
| Ethylene Dichloride (see Dichloroethane) | 100 | NR | NR | 25/80 | NR | NR | NR |
| Ethylene Dichloride/ Ethylene Dibromide/Tetra Ethyl Lead (above water solubility) | 5/5/5 | NR | NR | LS | NR | NR | NR |
| Ethylene Glycol | 100 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| Ethylene Glycol Monobutyl Ether (DOWANOL EB) | 20 | 40/100 | 50/120 | 65/150 | 50/120 | 65/150 | 40/100 |
| Ethylene Glycol Monobutyl Ether (DOWANOL EB) | 100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | NR |
| Ethylene Glycol/Sulfuric Acid | 0 - 40/0 - 10 | 65/150 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Ethylene Oxide | 100 | NR | NR | NR | NR | NR | NR |
| Ethylenediaminetetraacetic Acid (EDTA), (see VERSENE* 100 Chelating agent for the Tetrasodium Salt of EDTA) | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Ethylenesulfonic Acid, Sodium Salt ⁶ | All | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 | |
| Eucalyptus Oil | 100 | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 | |
| Fatty Acid/Sterol/Triglyceride | All | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 65/150 |

* Dow Chemical

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|--|-----------------|-------------------------------------|-----------|-----------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Fatty Acid/Sulfuric Acid ¹⁰ | 5/2 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |
| Fatty Acids | All | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 65/150 |
| Ferric Acetate | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Ferric Chloride | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Ferric Chloride/Ferrous Chloride | 5/20 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Ferric Chloride/Ferrous Chloride/ Hydrochloric Acid | 48/0.2/0.2 | 100/210 | 105/220 | 105/220 | 100/210 | 105/220 | 80/180 |
| Ferric Chloride/ Hydrochloric Acid ^{8,9,12} | 0 - 29/1 - 20 | 80/180 | 105/220 | 105/220 | 80/180 | 105/220 | 80/180 |
| Ferric or Ferrous Sulfate/ Sulfuric Acid | 0 - 40/0 - 25 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Ferric Sulfate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Ferrous Chloride | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Ferrous Chloride/ Hydrochloric Acid ^{8,9,12} | 0 - 29/1 - 20 | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | 80/180 |
| Ferrous Chloride+Manganese Chloride+Ferric Chloride/ Hydrochloric Acid ^{8,9,12} | 1 - 60/0 - 20 | 80/180 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Ferrous Nitrate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Ferrous Sulfate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Fertilizer, Uran*; Urea ammonium nitrate composition: 43.4% Ammonium Nitrate, 35.4% Urea, 20.3% Water | | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| 8-8-8 Fertilizer Composition: (Parts by wt. 30 Phosphoric Acid, 29 Ammonia, 104.3 Water, 10.4 Uran, 26.0 Potash, 3.0 Borax pH 8.2) | | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Flue Gas, Dry ¹⁶ | All | 165/325 | 175/350 | 205/400 | 165/325 | 175/350 | |
| Flue Gas, Wet | All | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | 80/180 |
| Fluoboric Acid ^{1,2} | All | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| Fluoride Salts/Hydrochloric Acid ^{1,2,5} | 30/10 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 |
| Fluorine in Flue Gas, Wet ¹ | 2 | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | 80/180 |
| Fluosilicic Acid ^{1,2} | 0 - 10 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Fluosilicic Acid ^{1,2} | 11 - 35 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Fluosilicic Acid Fumes ^{1,2} | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Fluosilicic/Hydrofluoric/ Phosphoric Acids ^{1,2} | 22/5/5 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Fluozirconic Acid, Fluotitanic Acid, Ammonium Hydroxide ^{1,2} | 5/4/3 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Fly Ash Slurry | | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Formaldehyde | All | 50/120 | 65/150 | 65/150 | 50/120 | 65/150 | |
| Formaldehyde/Methanol | 0 - 37/0 - 15 | 50/120 | 65/150 | 65/150 | 50/120 | 65/150 | |
| Formamide | 20 | 40/100 | 50/120 | 65/150 | 50/120 | 65/150 | 40/100 |

* Arcadian Corporation

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|--------------------|-------------------------------------|--------------|--------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Formamide | 100 | 20/70 | 20/70 | 20/70 | 20/70 | 20/70 | |
| Formic Acid | 10 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Formic Acid | 25 | 50/120 | 65/150 | 65/150 | 50/120 | 65/150 | 50/120 |
| Formic Acid | 50 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Formic Acid | 85 | 25/80 | 25/80 | 40/100 | 25/80 | 25/80 | |
| Formic Acid | 98 | | | 40/100 | | | |
| Freon* 11 and 12 Refrigerant | 100 | 25/80 | 40/100 | 40/100 | 25/80 | 40/100 | NR |
| Freon 113 Refrigerant | | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Fuel C (50/50 Isooctane/Toluene) | 100 | | | 50/120 | | | |
| Fuel C/Methyl t-Butyl Ether (MTBE) Note: Fuel C is 50% toluene and 50% isooctane) | 85/15 | | | 50/120 | | | |
| Fuel Oil | 100 | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | 65/150 |
| Furfural ¹¹ | 0 - 10 | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | |
| Furfural | 100 | NR | NR | LS | NR | NR | NR |
| Furfural in Organic Solvent ⁴ | 0 - 20 | NR | 25/80 | 40/100 | NR | 40/100 | |
| Furfural/Acetic Acid/Methanol | 30/10/5 | NR | NR | LS | NR | NR | NR |
| Furfuryl Alcohol ² | 20 | 40/100 | 50/120 | 65/150 | 40/100 | 50/120 | 40/100 |
| Furfuryl Alcohol ² | 100 | NR | NR | 25/80 | NR | NR | NR |
| Galecron (Chlordimeform) Insecticide 100 | | 25/80 | 50/120 | 50/120 | 25/80 | 50/120 | |
| Gallic Acid | Sat'd | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Gasohol (5% Methanol) | | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 |
| Gasohol (Up to 10% Alcohol) | | 40/100 | 40/100 | 50/120 | NR | 40/100 | NR |
| Gasohol (10-100% Alcohol) | | NR | NR | 40/100 | NR | NR | NR |
| Gasoline, Aviation | 100 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Gasoline, Leaded | 100 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Gasoline, No Lead, No Methanol | 100 | 50/120 | 65/150 | 65/150 | 50/120 | 65/150 | |
| Gasoline/MTBE | 85/15 | 40/100 | 40/100 | 50/120 | | | |
| Glucose | 100 | 80/180 | 80/180 | | | | |
| Glutamic Acid | 50 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Glutaraldehyde | 50 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 |
| Glutaric Acid | 50 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Glycerine | 100 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| Glycine and Derivatives | All | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Glycol | 100 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| Glycolic Acid (Hydroxyacetic acid) | 70 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Glyconic Acid | 50 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |

* E. I. DuPont de Nemours & Co., Inc.

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|--|-----------------|-------------------------------------|-----------|----------------------|--------------|----------------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Glyoxal | 40 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Glyphosate | All | | 40/100 | 40/100 | | 40/100 | |
| Gold Plating Solution (23% Potassium Ferrocyanide with Potassium Gold Cyanide and Sodium Cyanide) | | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Goodrite K702/732 Product (Sodium Polyacrylate Dispersants) | | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Green Liquor ^{1,2} | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Gypsum Slurry (see also Calcium Sulfate) | All | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Hard Chrome Plating Baths (with Sulfuric Acid: Not Recommended) | | 60/140 | 60/140 | | | | |
| Heptane | 100 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Heptane, Fumes, no condensation or coalescence | Fumes | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Herbicides ¹⁴ | | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 |
| Hexachloroethane | 100 | LS | 40/100 | 50/120 | LS | 40/100 | NR |
| Hexadecanol | 100 | 65/150 | 80/180 | 80/180 | 65/150 | 80/180 | 50/120 |
| Hexamethylenetetramine | 40 | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | |
| Hexane | 100 | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 | |
| Hexanoic Acid | 100 | 25/80 | 50/120 | 50/120 | 25/80 | 50/120 | 25/80 |
| Hot Stack Gas (see Flue Gas) | | | | | | | |
| Hydraulic Fluid (Glycols) ¹⁴ | 100 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Hydrazine | 20 | | LS | LS | LS | LS | |
| Hydrazine | 100 | NR | NR | LS | NR | NR | NR |
| Hydrazine/Sodium Phosphate | 5/10 | | LS | LS | LS | LS | |
| Hydriodic Acid | 40 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Hydriodic Acid | 57 | | 40/100 | 40/100 | 40/100 | 40/100 | |
| Hydrobromic Acid | 0 - 25 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Hydrobromic Acid | 48 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Hydrobromic Acid | 62 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Hydrobromic Acid/Bromine | 40/2 | | 40/100 | 40/100 | 40/100 | 40/100 | |
| Hydrochloric Acid ^{9,12} | 1 - 15 | 80/180 | 105/220 | 110/230 | 100/210 | 105/220 | 80/180 |
| Hydrochloric Acid ^{9,9,12} | 16 - 20 | 80/180 | 105/220 | 110/230 | 100/210 | 105/220 | 80/180 |
| Hydrochloric Acid ^{9,9,12} | 21 - 25 | 65/150 | 80/180 | 100/210 | 80/180 | 80/180 | 80/180 |
| Hydrochloric Acid ^{9,9,12} | 26 - 30 | 65/150 | 80/180 | 95/200 | 80/180 | 80/180 | 80/180 |
| Hydrochloric Acid ^{9,9,13} | 31 - 32 | 65/150 | 70/160 | 80/180 ¹⁵ | 65/150 | 80/180 ¹⁵ | 65/150 |
| Hydrochloric Acid ^{9,9,13} | 33 - 34 | 50/125 | 50/125 | 70/160 ¹⁵ | 50/125 | 70/160 ¹⁵ | 50/125 |
| Hydrochloric Acid ^{9,9,13} | 35 - 36 | 50/125 | 50/125 | 60/140 ¹⁵ | 50/125 | 60/140 ¹⁵ | 50/125 |
| Hydrochloric Acid ^{9,9,13} | 37 | 40/100 | 45/110 | 50/125 ¹⁵ | 40/100 | 50/120 ¹⁵ | |
| Hydrochloric Acid & Dissolved Organics ^{9,9,13} | 0 - 33% HCl | NR | | 65/150 ¹⁵ | | | NR |

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|--------------------|-------------------------------------|--------------|----------------------|-----------------|----------------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Hydrochloric Acid + Aluminum + Aluminum chloride ^{9,10,12} | < 15% HCl | 80/180 | 100/210 | | 80/180 | | |
| Hydrochloric Acid/Aluminum Chloride ^{8,9,12} | 30/0 - 40 | 65/150 | 70/160 | 80/180 ¹⁵ | 65/150 | 80/180 ¹⁵ | 65/150 |
| Hydrochloric Acid + Chlorine ^{9,12} | 0.5 - 20% HCl | 80/180 | 90/195 | 100/210 | 80/180 | 100/210 | 80/180 |
| Hydrochloric Acid, Fumes + Free Chlorine, dry above 210°F/100°C ^{8,9,12,16} | | | 175/350 | 175/350 | | 175/350 | |
| Hydrochloric Acid, Fumes ^{9,16} | | 100/210 | 175/350 | 175/350 | 100/210 | 175/350 | 80/180 |
| Hydrochloric Acid/Bromine/ Chlorine ^{8,9,12} | 22/0.1/0.1 | 65/150 | 80/180 | 100/210 | 80/180 | 80/180 | 80/180 |
| Hydrochloric Acid/Calcium Chloride ^{8,9,12} | 27/15 | 65/150 | 80/180 | 95/200 | 80/180 | 80/180 | 80/180 |
| Hydrochloric Acid/Diethylene Triamine (as Hydrochloride)/ Ammonium Chloride ^{8,9,13} | < 33/>10/10 | | | 65/150 | | | |
| Hydrochloric Acid/ Ferric Chloride ^{8,9,12} | 1 - 20/0 - 29 | 80/180 | 105/220 | 105/220 | 80/180 | 105/220 | 80/180 |
| Hydrochloric Acid/ Ferric Chloride/Organics ^{2,8,9,13} | 28/35/1 | NR | NR | 65/150 | NR | NR | NR |
| Hydrochloric Acid/ Ferrous Chloride ^{8,9,12} | 1 - 20/0 - 29 | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | 80/180 |
| Hydrochloric Acid/ Formaldehyde ^{2,8,9,13} | 25/3 | NR | NR | 65/150 | NR | NR | NR |
| Hydrochloric/ Hydrofluoric Acid ^{1,2,8,13} | 36/1 | | 40/100 | 40/100 ¹⁵ | | 40/100 ¹⁵ | |
| Hydrochloric Acid/ Hydrofluoric Acid ^{1,2,8,13} | Max. Total 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Hydrochloric/ Hydrofluoric Acid ^{1,2,13} | 15/0.1 - 1 | 80/180 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Hydrochloric/ Hydrofluoric Acid ^{1,2,8,13} | 25/6 | 40/100 | 45/110 | 50/125 | 40/100 | 50/120 | |
| Hydrochloric/Hydrofluoric/ Phosphoric Acid, Nitrobenzene ^{1,2} | 15/1/1/0.5 | NR | LS | 40/100 | NR | LS | NR |
| Hydrochloric/Hydrofluoric/ Xylene | 15/15/70 | | | NR | | | |
| Hydrochloric/Hydrofluoric Acid ^{1,2,8,13} | 0.5 - 20/0 - 1 | 65/150 | 80/180 | 80/180 | 65/150 | 80/180 | |
| Hydrochloric/Hydrofluoric Acid ^{1,2,8,13} | 30/15 | | | 40/100 | | | |
| Hydrocyanic Acid | All | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Hydrofluoric Acid ^{1,2} | 10 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Hydrofluoric Acid ^{1,2} | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Hydrofluoric/Nitric Acid ^{1,2} | 15/15 | | | 40/100 | | 40/100 | |
| Hydrofluoric/Nitric Acid ^{1,2} | 6/20 | 50/120 | 50/120 | 60/140 | 55/130 | 60/140 | 40/100 |

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|--|-----------------|-------------------------------------|-----------|-----------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Hydrofluoric/Nitric Acid ¹ | 3 - 5/30 - 35 | NR | NR | LS | NR | LS | NR |
| Hydrofluoric/Nitric/ Sulfuric Acid ^{1,2} | 8/20/2 | | | 60/140 | | 60/140 | |
| Hydrofluosilicic Acid/ Polyaluminum Hydroxychloride (or Polyaluminum Chloride, PAC) ^{1,2} | 1 - 22/1 - 35 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Hydrofluosilicic Acid ¹ (see Fluosilicic Acid) | 0 - 10 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Hydrofluosilicic Acid ¹ (see Fluosilicic Acid) | 11 - 35 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Hydrofluosilicic Acid/ Zinc Chloride ¹ | 20/All | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Hydrogen Bromide, Dry Gas | 100 | 80/180 | 80/180 | 100/210 | 80/180 | 100/210 | 80/180 |
| Hydrogen Bromide, Wet Gas | 100 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Hydrogen Chloride, Dry Gas ^{6,16} | 100 | 100/210 | 175/350 | 175/350 | 100/210 | 175/350 | 80/180 |
| Hydrogen Chloride, Wet Gas | 100 | 100/210 | 110/230 | 110/230 | 100/210 | 110/230 | 80/180 |
| Hydrogen Fluoride, Dry Gas/Vapor (if wet max. 40°C/100°F) ^{1,2,6} | | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Hydrogen Peroxide ^{2,3,6} | 0 - 30 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Hydrogen Peroxide ^{2,3,6} | 35 | 25/80 | 30/90 | 40/100 | 30/90 | 40/100 | NR |
| Hydrogen Peroxide ^{2,3,6} | 50 | NR | NR | LS | NR | NR | NR |
| Hydrogen Peroxide/ Caustic ^{1,2,3} (See individual listing for details) | | 85/185 | 85/185 | | 85/185 | 85/185 | 80/180 |
| Hydrogen Peroxide/Caustic Bleach - Aqueous Solution with up to 0.56 wt. % Hydrogen Peroxide, pH = 10.7, 2% Sodium Silicate Pentahydrate, 0.2% Chelating Agent, 0.2% Chelant ^{1,2,3} | | 85/185 | 85/185 | | 85/185 | 85/185 | 80/180 |
| Hydrogen Sulfide ^{6,16} | 5 | 100/210 | 175/350 | 175/350 | 100/210 | 175/350 | 80/180 |
| Hydrogen Sulfide, Aqueous | All | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Hydrogen Sulfide, Dry Gas | 100 | 100/210 | 110/230 | 110/230 | 100/210 | 110/230 | 80/180 |
| Hydrosulfite Bleach, Aqueous Solution containing 5% Zinc Hydrosulfite and 2.5% Tripolyphosphate ⁵ | | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|--------------------|-------------------------------------|--------------|--------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Hydroxyacetic Acid (Glycolic Acid) | 20 | 40/100 | 50/120 | 65/150 | 40/100 | 50/120 | 40/100 |
| Hydroxyacetic Acid (Glycolic Acid) | 70 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Hydroxylamine Acid Sulfate (Hydroxylammonium Acid Sulfate, HSA), Reaction of Hydroxylamine Acid Disulfate with steam to form HAS, Sulfuric Acid, Ammonium Sulfate | > 0.5 | | 100/210 | 100/210 | | | |
| Hypochlorous Acid ^{2,3} | 0 - 10 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Hypophosphorous Acid | 0 - 50 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 |
| Imidazoline Acetate/Solvent ^{2,4} | 20 | 40/100 | 45/110 | 50/120 | 40/100 | 45/110 | NR |
| Imidazoline Acetate/Solvent ^{2,4} | 60 | NR | LS | 40/100 | NR | NR | NR |
| Incinerator Gases (see Flue Gas) | | | | | | | |
| Insecticide Emulsions | 0.5 - 10 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Iodine, Crystals | 100 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Iodine, Vapor | 100 | 65/150 | 65/150 | 80/180 | 65/150 | 65/150 | 65/150 |
| Iron and Steel Cleaning Bath, 9% Hydrochloric, 23% Sulfuric acid | 9 | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | 80/180 |
| Iron Plating Solution 45% FeCl ₂ ; 15% CaCl ₂ ; 20% FeSO ₄ ; 11% (NH ₄) ₂ SO ₄ | | 80/180 | 120/250 | 120/250 | 80/180 | 120/250 | 80/180 |
| Isoamyl Alcohol | 20 | 65/150 | 65/150 | 80/180 | 65/150 | 65/150 | 65/150 |
| Isoamyl Alcohol | 100 | 50/120 | 60/140 | 65/150 | 50/120 | 60/140 | 50/120 |
| Isobutyl Alcohol | 20 | 65/150 | 65/150 | 80/180 | 65/150 | 65/150 | 40/100 |
| Isobutyl Alcohol | 100 | 50/120 | 50/120 | 65/150 | 50/120 | 50/120 | NR |
| Isodecanol | 100 | 50/120 | 65/150 | 80/180 | 50/120 | 65/150 | 50/120 |
| Isononyl Alcohol | 100 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 40/100 |
| Isooctyl Adipate | 100 | 50/120 | 50/120 | 65/150 | 50/120 | | 40/100 |
| Isooctyl Alcohol | 100 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 50/120 |
| Isopropanol Amine | 100 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | NR |
| Isopropyl Alcohol (Isopropanol) | 100 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | NR |
| Isopropyl Amine | 0.5 - 50 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Isopropyl Amine | 100 | NR | NR | LS | NR | NR | NR |
| Isopropyl Myristate | 100 | 100/210 | 110/230 | 110/230 | | 110/230 | 65/150 |
| Isopropyl Palmitate | 100 | 100/210 | 110/230 | 110/230 | 100/210 | 110/230 | 65/150 |
| Itaconic Acid | 0.5 - 40 | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 |
| Jet Fuel, General | 100 | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 |
| Kerosene | 100 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|--|-----------------|-------------------------------------|-----------|-----------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Kraft Recovery Boiler Breeching (see Flue Gas) | | | | | | | |
| Lactic Acid | All | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| Lasso* Herbicide ⁴ | All | | | 50/120 | | | |
| Latex (Emulsion in Water) (for specific latices see under chemical/polymer name) | All | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 |
| Lauroyl Chloride | 100 | 40/100 | 50/120 | 50/120 | | 50/120 | |
| Lauryl Alcohol | 100 | 65/150 | 80/180 | 80/180 | 65/150 | 80/180 | 50/120 |
| Lauryl Chloride | 100 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| Lauryl Mercaptan | 100 | 80/180 | 95/200 | 100/210 | 80/180 | 95/200 | |
| Lead Acetate | Sat'd | 100/210 | 110/230 | 110/230 | 100/210 | 110/230 | |
| Levulinic Acid | Sat'd | 100/210 | 110/230 | 110/230 | 100/210 | 110/230 | |
| Lignin Sulfonate | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Lime Slurry (see Calcium Hydroxide) | | | | | | | |
| Limestone Slurry (see Calcium Carbonate) | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Linseed Oil | 100 | 100/210 | 110/230 | 110/230 | 100/210 | 110/230 | 65/150 |
| Liquid Petroleum Gas (LPG) | 100 | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 |
| Lithium Bromide | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | | 80/180 |
| Lithium Carbonate ¹ | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Lithium Chloride | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Lithium Chloride | Sat'd (35 - 40) | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Lithium Hydroxide ¹ | All | 80/180 | 80/180 | 40/100 | 80/180 | 80/180 | 80/180 |
| Lithium Hypochlorite ^{1,2,3,5} | All | 80/180 | 80/180 | 40/100 | 80/180 | 80/180 | 80/180 |
| Magnesium Bisulfite | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Magnesium Carbonate | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Magnesium Chloride | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Magnesium Fluosilicate ¹ | All | 80/180 | 80/180 | 80/180 | | 80/180 | 80/180 |
| Magnesium Hydroxide | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Magnesium Nitrate | All | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Magnesium Phosphate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Magnesium Sulfate | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Magnesium Sulfate, Phosphoric Acid | 1 - 40/0 - 36 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 |
| Magnifloc** 500 Series Products | All | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 |
| Magnifloc 837A Products | All | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Maleic Acid | > 0.5 | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | 80/180 |
| Manganese Chloride (Manganous Chloride) | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Manganese Nitrate (Manganous) | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |

* Monsanto

** Cytec

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|--------------------|-------------------------------------|--------------|--------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Manganese Sulfate (Manganous Sulfate) | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Melamine Formaldehyde Resin | All | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | 40/100 |
| Mercaptoacetic Acid | All | NR | 25/80 | 40/100 | NR | 25/80 | NR |
| Mercaptoethanol | 10 | | 80/180 | 80/180 | | 80/180 | |
| Mercuric Chloride | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Mercurous Chloride | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Mercury | 100 | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 65/150 |
| Metal Pickling Solutions (Sulfuric-, Hydrochloric-, and/or Phosphoric Acids) ⁹ | 0.5 - 15 Total | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |
| Methacrylic Acid ⁷ | 25 | 40/100 | 40/100 | 50/120 | 40/100 | 40/100 | 40/100 |
| Methacrylic Acid | 100 | LS | LS | 40/100 | LS | 40/100 | |
| Methane/Nitrogen | 70/30 | 60/140 | 80/180 | 95/200 | 80/180 | 95/200 | 60/140 |
| Methane Sulfonic Acid ⁶ | 20 - 100 | NR | LS | 40/100 | NR | NR | NR |
| Methanol (Methyl Alcohol) | 5 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 |
| Methanol (Methyl Alcohol) | 20 | NR | 30/90 | 40/100 | NR | 40/100 | NR |
| Methanol (Methyl Alcohol) | 40 - 100 | NR | LS | 40/100 | NR | NR | NR |
| Methanol, Fumes, no condensation or coalescence | Fumes | | 65/150 | 80/180 | 80/180 | 80/180 | |
| Methanol/Ethanolamine | 0 - 60/0 - 20 | NR | LS | 40/100 | NR | NR | NR |
| Methanol/Formaldehyde/Sulfuric | 60/20/2 | NR | LS | 40/100 | NR | NR | NR |
| Methanol/Formaldehyde | 0 - 15/0 - 37 | 50/120 | 65/150 | 65/150 | 50/120 | 65/150 | |
| Methanol/Formaldehyde | 35/4 | NR | NR | 40/100 | NR | NR | |
| 1-Methoxy-2-Propanol | 100 | NR | LS | 20/70 | NR | NR | NR |
| Methyl Acetate | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Methyl Acetate | 100 | NR | NR | LS | NR | LS | NR |
| Methyl Bromide | 10 | 25/80 | 25/80 | 25/80 | 25/80 | 25/80 | NR |
| Methyl Bromide | 100 | NR | NR | LS | NR | NR | NR |
| Methyl Butyl Ketone (MBK), includes Methyl t-Butyl Ketone (MTBK) and other Isomers | 100 | 25/80 | 40/100 | 50/120 | 25/80 | 40/100 | NR |
| Methyl Chloride, Gas | All | 40/100 | 65/150 | 65/150 | 40/100 | 65/150 | NR |
| Methyl Chloride, Fumes, no condensation or coalescence | Fumes | | | 80/180 | 80/180 | 80/180 | |
| Methyl Distearyl Ammonium Chloride/Isopropanol | 75/25 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Methyl Ethyl Ketone | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Methyl Ethyl Ketone | 100 | LS | LS | 20/70 | LS | LS | NR |
| Methyl Ethyl Ketone, 2-Butanol, Triethylamine, 2-Butoxy Ethanol | < 25 Total | LS | 25/80 | 40/100 | LS | 25/80 | NR |
| Methyl Formate | 5 | 40/100 | 45/110 | 50/120 | 45/110 | 50/120 | |
| Methyl Isobutyl Ketone (MIBK) | 100 | 25/80 | 40/100 | 50/120 | 25/80 | 40/100 | NR |
| Methyl Mercaptan (Gas) | All | 40/100 | 65/150 | 65/150 | 40/100 | 65/150 | NR |

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|-----------------|-------------------------------------|-----------|-----------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Methyl Methacrylate | All | NR | LS | 25/80 | NR | 20/70 | NR |
| N-methyl-2-pyrrolidone | 10 | | | LS | | | |
| N-methyl-2-pyrrolidone | 100 | NR | NR | LS | NR | NR | NR |
| Methyl t-Butyl Ether | 100 | NR | 25/80 | 25/80 | NR | 25/80 | NR |
| Methyl t-Butyl Ether (MTBE)/ Fuel C (Fuel C is 50% toluene and 50% isooctane) | 15/85 | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | NR |
| Methyl t-Butyl Ether, Fumes, no condensation or coalescence | Fumes | | | 80/180 | 80/180 | 80/180 | |
| 2-Methyl-3-butenenitrile | All | 25/80 | 40/100 | 40/100 | 25/80 | 40/100 | |
| Methylamine | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Methylamine | 40 | LS | LS | LS | LS | LS | NR |
| Methylamine | 100 | NR | NR | LS | NR | NR | NR |
| Methyldiethanolamine | 20 | 50/120 | 65/150 | 80/180 | 50/120 | 65/150 | 40/100 |
| Methyldiethanolamine | 100 | 50/120 | 50/120 | 65/150 | 50/120 | 50/120 | |
| Methylene Chloride | 100 | NR | NR | LS | NR | NR | NR |
| Methylene Chloride, Fumes, no condensation or coalescence | Fumes | | | 80/180 | 80/180 | 80/180 | |
| Methylene Chloride/Methanol/ Water | 1/4/95 | 40/100 | 40/100 | 50/120 | 40/100 | 40/100 | 40/100 |
| Methylstyrene (alpha) | 100 | 25/80 | 40/100 | 50/120 | 25/80 | 40/100 | NR |
| Mineral Oils, Aliphatic | 100 | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 65/150 |
| Molasses | 100 | 80/180 | 80/180 | | | | |
| Monochloroacetic Acid (see Chloroacetic Acid) | | | | | | | |
| Monochlorobenzene | 100 | NR | 25/80 | 40/100 | NR | 25/80 | NR |
| Monoethanolamine (see Ethanolamine) | | | | | | | |
| Monomethylhydrazine | 100 | NR | NR | LS | NR | NR | NR |
| Morpholine ² | 20 | 40/100 | 45/110 | 50/120 | 45/110 | 50/120 | 40/100 |
| Morpholine ² | 100 | NR | NR | 25/80 | NR | NR | NR |
| Morpholine/Cyclohexylamine | All | NR | NR | 25/80 | NR | NR | NR |
| Motor Oil | 100 | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 65/150 |
| Muriatic Acid (see Hydrochloric Acid) | | | | | | | |
| Myristic Acid | 100 | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 65/150 |
| Naphtha | 100 | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | 80/180 |
| Naphtha, Heavy Aromatic | 100 | | 50/120 | 50/120 | | 50/120 | |

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| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|--------------------|-------------------------------------|--------------|--------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Naphthalene | 100 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Neutralizer & Desmut | All | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Nickel Chloride | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Nickel Nitrate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Nickel Plating Solution #1 (11% Nickel Sulfate/ 2% Nickel Chloride/ 1% Boric Acid) | | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Nickel Plating Solution #2 (44% Nickel Sulfate/ 4% Ammonium Chloride/ 4% Boric Acid) | | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Nickel Plating Solution #3 (15% Nickel Sulfate/5% Nickel Chloride/3% Boric Acid) | | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Nickel Sulfamate | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Nickel Sulfate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Nitric Acid | 0 - 5 | 65/150 | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 |
| Nitric Acid | 6 - 10 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 50/120 |
| Nitric Acid | 11 - 20 | 50/120 | 50/120 | 65/150 | 50/120 | 65/150 | 50/120 |
| Nitric Acid ² | 21 - 29 | 40/100 | 40/100 | 50/120 | 40/100 | 50/120 | 40/100 |
| Nitric Acid ² | 30 - 35 | 25/80 | 30/90 | 40/100 | 30/90 | 40/100 | NR |
| Nitric Acid ² | 36 - 40 | NR | NR | 40/100 | NR | 25/80 | NR |
| Nitric Acid | 70 | NR | NR | LS | NR | NR | NR |
| Nitric Acid Fumes ² | < 60 (soln.) | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Nitric Acid Fumes, no condensation ² | > 60 (soln.) | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Nitric Acid/Hexavalent Chrome (Chromic Acid) | 10/5 | 40/100 | 50/120 | 65/150 | 40/100 | 40/100 | 40/100 |
| Nitric Acid/Hydrogen Peroxide/ Hydrofluoric Acid ^{1,2,3} | 30/5/0.5 | 25/80 | 30/90 | 40/100 | 30/90 | 40/100 | NR |
| Nitric/Hydrofluoric Acid ^{1,2} | 25/3 | 40/100 | 40/100 | 50/120 | 40/100 | 50/120 | 40/100 |
| Nitric/Hydrofluoric Acid | 30 - 35/3 - 5 | NR | NR | LS | NR | LS | NR |
| Nitric/Hydrofluoric Acid ^{1,2} | 15/15 | | | 40/100 | | 40/100 | |
| Nitric/Hydrofluoric Acid ^{1,2} | 20/6 | 50/120 | 50/120 | 60/140 | 55/130 | 60/140 | 40/100 |
| Nitric/Hydrofluoric/ Sulfuric Acid ^{1,2} | 20/8/2 | | | 60/140 | | 60/140 | |
| Nitric/Phosphoric Acid ² | 24/23 | 40/100 | 40/100 | 50/120 | 40/100 | 50/120 | 40/100 |
| Nitric/Sulfuric Acid ² | 20/20 | 40/100 | 40/100 | 50/120 | 40/100 | 50/120 | 40/100 |
| Nitric/Sulfuric/Phosphoric Acid | 20/5/2 | 40/100 | 40/100 | 50/120 | 40/100 | 50/120 | 40/100 |
| Nitric/Phosphoric Acid ² | 5 & 5 | 65/150 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Nitrobenzene | 100 | NR | 25/80 | 40/100 | NR | 25/80 | NR |

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|-----------------|-------------------------------------|-----------|-----------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Nitrophenol ¹¹ | " | NR | 25/80 | 40/100 | NR | 25/80 | NR |
| N-methyl-2-pyrrolidone | 10 | | | LS | | | |
| N-methyl-2-pyrrolidone | 100 | NR | NR | LS | NR | NR | NR |
| Noncondensable Blow Down Gases (see Flue Gas or Blow Down) | | | | | | | |
| Octanoic Acid | 100 | 80/180 | 100/210 | 100/210 | 80/180 | 100/210 | |
| Oil, Sweet and Sour, Crude | 100 | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 65/150 |
| Oleic Acid | 100 | 100/210 | 100/210 | | | | |
| Oleum (Fuming Sulfuric) | | NR | NR | LS | NR | NR | NR |
| Olive Oils | 100 | 100/210 | 120/250 | | | | |
| Ortho-Dichlorobenzene (see Dichlorobenzene) | | | | | | | |
| Oxalic Acid | Sat'd | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Ozone in solution ⁶ | 2 mg/L | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Palladium Suspensions in Ammonium Hydroxide, (see Ammonium Hydroxide) | | | | | | | |
| Palladium Suspensions in Hydrochloric Acid (see Hydrochloric Acid) | | | | | | | |
| Palmitic Acid | 100 | 100/210 | 120/250 | | | | |
| Paper Mill Effluent (see Sulfite/ Sulfate Liquors (Pulp Mill)) | | | | | | | |
| Para-Dichlorobenzene (see Dichlorobenzene) | | | | | | | |
| Peanut Oil | 100 | 80/180 | 80/180 | | | | |
| Pentabromo Diphenyl Oxide | 100 | 25/80 | 45/110 | 50/120 | 25/80 | 50/120 | NR |
| Pentachlorophenol ⁴ | All | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 |
| Pentanedioic Acid (see Glutaric Acid) | | | | | | | |
| Peracetic Acid ^{1,2,3,6} | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Peracetic Acid | 35 | NR | NR | LS | NR | NR | NR |
| Perchloric Acid | 10 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Perchloric Acid | 30 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Perchloroethylene | 100 | 25/80 | 50/120 | 50/120 | 25/80 | 50/120 | NR |
| Phenol (Carbolic Acid) ² | 0 - 2 | 25/80 | 40/100 | 50/120 | 25/80 | 40/100 | NR |
| Phenol (Carbolic Acid) ² | 5 | NR | 25/80 | 50/120 | NR | 25/80 | NR |
| Phenol (Carbolic Acid) ² | 10 | NR | LS | 50/120 | NR | LS | NR |
| Phenol (Carbolic Acid) ² | 15 | NR | LS | 30/90 | NR | LS | NR |
| Phenol (Carbolic Acid) ² | 88 | NR | NR | 20/70 | NR | NR | NR |
| Phenol Formaldehyde Resin | All | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | 40/100 |
| Phenol Sulfonic Acid ⁶ | All | 25/80 | 25/80 | 25/80 | 25/80 | 25/80 | |
| Phenol/Methanol/ Anionic Detergent | 15/10/20 | NR | NR | LS | NR | NR | NR |
| Phenolic Resin/Phenol ² | 80/20 | | | 25/80 | | | |

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|--------------------|-------------------------------------|--------------|--------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Phenolic Resin/Phenol ² | 90/10 | | | 50/120 | | | |
| Phosphoric Acid | 0.5 - 85 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Phosphoric Acid | 85 - 100 | 100/210 | 100/210 | 105/220 | 100/210 | 100/210 | 80/180 |
| Phosphoric Acid (Polyphosphoric Acid) | 115 | 100/210 | 100/210 | 105/220 | 100/210 | 100/210 | 80/180 |
| Phosphoric Acid (Superphosphoric Acid 76% P ₂ O ₅) | 105 | 100/210 | 100/210 | 105/220 | 100/210 | 100/210 | 80/180 |
| Phosphoric Acid/Tributyl Phosphate (Vapor Phase, Condensation) | 85/0.5 | 50/120 | 60/140 | 60/140 | 50/120 | 60/140 | 40/100 |
| Phosphoric Acid with Phosphorous Pentoxide, Hydrochloric Acid and Sulfuric Dioxide | Fumes | 100/210 | 110/230 | 110/230 | 100/210 | 110/230 | 80/180 |
| Phosphoric Acid, Vapor ⁶ | All | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Phosphoric Acid/Gypsum | 61/39 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Phosphoric Acid/Sulfuric Acid | 85/15 | 40/100 | 40/100 | 50/120 | 40/100 | 40/100 | 40/100 |
| Phosphoric Acid/Tributyl Phosphate/Hydrofluoric Acid (no condensation of TBP) | 88/0.1/0.03 | 80/180 | 80/180 | 100/210 | 80/180 | 80/180 | |
| Phosphoric Acid/Zinc Chloride | 0 - 100/0.5 - 70 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Phosphoric Acid/Hydrochloric Acid, sat'd with Cl ₂ ^{9,12} | 15/9 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |
| Phosphoric/Sulfuric Acid | 0 - 45/0.5 - 40 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Phosphoric/Sulfuric/ Hydrofluoric ^{1,2} | 0 - 75/1/0 - 3 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Phosphorous Acid | 70 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Phosphorous Acid 70%/ Hydrochloric Acid 37% ^{9,15} | 0 - 100/1 - 10 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Phosphorous Acid 70%/ Hydrochloric Acid 37% ^{8,9,15} | 0 - 100/11 - 20 | 65/150 | 65/150 | 80/180 | 65/150 | 65/150 | |
| Phosphorus Oxychloride | 100 | NR | NR | LS | NR | NR | NR |
| Phosphorus Trichloride | 100 | NR | NR | LS | NR | NR | NR |
| Phthalic Acid ⁴ | All | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |
| Picric Acid (Alcoholic) ⁴ | 10 | NR | LS | 40/100 | NR | NR | NR |
| Pine Oil | 100 | 90/190 | 90/190 | 90/190 | 90/190 | 90/190 | |
| Plating Chemicals ⁶ | | | | | | | |
| Polyacrylamide | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Polyacrylic Acid | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Polyethylene Glycol methyl ether ⁶ | 100 | | | | | | |
| Polyethyleneimine | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Polyphosphoric Acid H ₃ PO ₄ | 115% | 100/210 | 100/210 | 105/220 | 100/210 | 100/210 | 80/180 |
| Polyvinyl Acetate Adhesives | All | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|--|---------------------------|-------------------------------------|-----------|-----------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Polyvinyl Alcohol | 100 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Polyvinyl Chloride Latex with 35 parts Dioctylphthalate | All | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Potassium Aluminum Sulfate | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Potassium Bicarbonate | > 0.5 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Potassium Bromide | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Potassium Carbonate ¹ | 0 - 50 | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 | 80/180 |
| Potassium Carbonate/Boric Acid/ Potassium Metavanadate ¹ | 20/4/1 | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 | 80/180 |
| Potassium Chloride | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Potassium Dichromate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Potassium Ferricyanide | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Potassium Ferrocyanide | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Potassium Fluoride | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Potassium Gold Cyanide | 12 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Potassium Hydroxide ^{1,2} | 0 - 45 | 65/150 | 40/100 | 25/80 | 65/150 | 25/80 | |
| Potassium Hydroxide/Potassium Cyanide/Copper Cyanide ¹ | 2/3/8 oz/gal, 2/2.5/7% | 65/150 | 40/100 | 25/80 | 65/150 | 25/80 | |
| Potassium Hypochlorite, Potassium Hydroxide, Potassium Metasilicate ^{1,2,3} | 50/40/10 | 50/120 | | | | | |
| Potassium Iodide | All | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Potassium Nitrate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Potassium Oxalate | All | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Potassium Permanganate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Potassium Persulfate | All | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Potassium Pyrophosphate | 60 | 55/130 | 65/150 | 65/150 | 55/130 | 65/150 | 55/130 |
| Potassium Silicofluoride ¹ | All | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Potassium Sulfate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Propane | 100 | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 |
| Propanol (n-) | 100 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | NR |
| Propanol (n-), Fumes, no condensation or coalescence | Fumes | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Propionic Acid | 0 - 50 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Propionic Acid | 100 | NR | 25/80 | 40/100 | NR | 25/80 | NR |
| Propionyl Chloride | 100 | NR | NR | LS | NR | NR | NR |
| Propyl Acetate | 100 | NR | LS | 25/80 | NR | NR | NR |
| Propyl Bromide | 100 | NR | LS | 25/80 | NR | LS | NR |
| Propyl Chloride | 100 | NR | LS | 25/80 | NR | LS | NR |
| Propylene Glycol | 100 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |
| Propylene Glycol Monomethyl Ether Acetate (DOWANOL PMA) ² | 20 | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | 40/100 |

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|--------------------|-------------------------------------|--------------|--------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Propylene Glycol Monomethyl Ether Acetate (DOWANOL PMA) ² | 100 | NR | LS | 20/70 | NR | NR | NR |
| Propylene Glycol Monomethyl Ether (see DOWANOL PM) | | | | | | | |
| Propylene Glycol/ Ethoxylated Fatty Alcohols/ Diethylene Glycol Monobutyl Ether (DOWANOL DB) | 60/20/20 | 40/100 | 45/110 | 50/120 | 40/100 | 50/120 | NR |
| Propylene Glycol/ Monoethanolamine | 0 - 99/1 | 25/80 | 30/90 | 40/100 | 25/80 | 30/90 | NR |
| Propylene Oxide | 100 | NR | NR | NR | NR | NR | NR |
| Propylene Oxide, Fumes, no condensation or coalescence | Fumes | | | 80/180 | 80/180 | 80/180 | |
| Pulp Paper Mill Blow Down (Noncondensable Gases, see also Blow Down) | | | | | | | |
| Pyridine | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | NR |
| Pyridine | 100 | NR | NR | LS | NR | NR | NR |
| Quaternary Amine Salts | > 0.5 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Quinoline | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Quinoline | 100 | | | LS | | | |
| Radiation Resistance ⁶ | | | | | | | |
| Rayon Spin Bath | | | | 60/140 | | | |
| Rayon Spinning | Fumes | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 | |
| Recovery Boiler Gases (see Flue Gas) | | | | | | | |
| Red Liquor | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Salicylic Acid | All | 70/160 | 70/160 | | | | |
| Salt Brine | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Scrubbing Low MW Amines with 10% Sulfuric Acid, (see Amine Salts) | | | | | | | |
| Sea Water | | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Selenious Acid | All | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Silicon Tetrafluoride/Hydrofluoric/ Sulfuric Acid ^{1,2} | < 10 Total | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 |
| Silver Nitrate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Silver Plating Solution, 4% Silver; 7% Potassium and 5% Sodium Cyanides; 2% Potassium Carbonate ¹ | | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 | |
| Sodium Acetate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |
| Sodium Alkyd Aryl Sulfonates | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Sodium Aluminate ¹ | All | 70/160 | 70/160 | 50/120 | 70/160 | 50/120 | 50/120 |
| Sodium Benzoate | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Sodium Bicarbonate | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|--------------------------------|-------------------------------------|-----------|-----------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Sodium Bicarbonate/ Sodium Carbonate ¹ | 15/20 | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 | 80/180 |
| Sodium Bifluoride ¹ | All | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 |
| Sodium Bisulfate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Bisulfide (Hydrosulfide) | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Sodium Bisulfite | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Borate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Borohydride SWS (Stabilized Water Solution) | All | 40/100 | 40/100 | | | | |
| Sodium Bromate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Bromide | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Carbonate ¹ | All | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 | 80/180 |
| Sodium Carbonate/ Sodium Bicarbonate ¹ | 20/15 | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 | 80/180 |
| Sodium Chlorate, Stable | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Chlorate/ Phosphoric Acid ⁶ | 1 - 20/1 - 20 | | | | | | |
| Sodium Chlorate/ Sulfuric Acid ⁶ | 1 - 20/1 - 20 | | | | | | |
| Sodium Chlorate/Sodium Chloride | 34/20 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Chloride | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Chloride (see Salt Brine) | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Sodium Chloride with Chlorine, pH > 9 (see Chlorinated Brine) | | | | | | | |
| Sodium Chloride with Chlorine, pH 2.5 - 9 ⁶ | | LS | LS | LS | LS | LS | LS |
| Sodium Chloride, pH < 2.5, Cl ₂ Sat'd (see Chlorinated Brine) | | | | | | | |
| Sodium Chloride/Ethyl Vanillin | 0.1 - 25/1 | 50/120 | 50/120 | | | | |
| Sodium Chloride/ Magnesium Oxide/Lime | 0.5 - 26/0.1 - 20/ 0.1 - 10 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Chloride/Sodium Hydroxide ^{1,2} | 0.5 - 10/0.1 - 2 | 80/180 | 65/150 | 40/100 | 80/180 | 65/150 | 50/120 |
| Sodium Chloride/Sodium Chlorate | 20/34 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |
| Sodium Chlorite, pH < 6, (see Chlorine Dioxide) | | | | | | | |
| Sodium Chlorite, pH > 6 ⁵ | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Sodium Chlorite/Sodium Hypochlorite pH>11 ^{1,2,3} | 0.1 - 25/0.1 - 15 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Sodium Chromate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Cyanide | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |
| Sodium Dichromate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|--|--------------------------------|-------------------------------------|--------------|--------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Sodium Dimethyldithiocarbamate/ Disodium Ethylene Bisdithiocarbamate | 0.1 - 15/0.1 - 15 | 40/100 | 40/100 | 50/120 | 40/100 | 50/120 | 40/100 |
| Sodium Diphosphate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Dodecylbenzene Sulfonate | All | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 | |
| Sodium Ferricyanide | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |
| Sodium Ferrocyanide | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Fluoride | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Sodium Fluoroborate ¹ | > 0.5 | 95/200 | 95/200 | 95/200 | | | |
| Sodium Fluorosilicate ¹ | All | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 |
| Sodium Gluconate | > 0.5 | 80/180 | 95/200 | 100/210 | 95/200 | 100/210 | 65/150 |
| Sodium Glycolate | > 0.5 | 80/180 | 95/20 | 100/210 | 80/180 | 95/200 | 65/150 |
| Sodium Hexametaphosphate | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Sodium Hydrosulfide (Sodium Bisulfide) | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Sodium Hydroxide ^{1,2} | All | 80/180 | 65/150 | 40/100 | 80/180 | 65/150 | 65/150 |
| Sodium Hydroxide/ Sodium Bisulfite ^{1,2} | All | 80/180 | 65/150 | 40/100 | 80/180 | 65/150 | 65/150 |
| Sodium Hydroxide/Sodium Chloride/Sodium Sulfate/ Sodium Hypochlorite (active Chlorine) ^{1,2,3,5} | 1 - 20/1 - 15/ 1 - 8/0 - 15 | 80/180 | 65/150 | 40/100 | 80/180 | 65/150 | |
| Sodium Hydroxide/Organics (within solubility limits, i.e., no phase separation or coalescence) | 8/trace | 80/180 | 65/150 | | | | |
| Sodium Hydroxide/Sodium Hypochlorite ^{1,2} | 0 - 20/0 - 0.1 | 80/180 | | | | | |
| Sodium Hypochlorite, pH>11 (active Chlorine) ^{1,2,3,5} | 0 - 18 | 80/180 | 80/180 | 50/120 | 80/180 | 65/150 | 65/150 |
| Sodium Hypochlorite, pH>11 (active Chlorine) ^{1,2,3,5} | 21 | | 40/100 | | 40/100 | | |
| Sodium Hypochlorite, pH>11 (active Chlorine) ^{1,2,3,5} | 24 | LS | LS | LS | LS | LS | NR |
| Sodium Lauryl Sulfate | All | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 | |
| Sodium Metabisulfite | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Methyldithiocarbamate | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Sodium Monophosphate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Myristyl Sulfate | All | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 | |
| Sodium Nitrate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Nitrite | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Oxalate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Perchlorate | 60 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 |
| Sodium Persulfate | All | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|-----------------|-------------------------------------|-----------|-----------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Sodium Phosphate, mono-, di-, tribasic | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Polyacrylate, pH 9 - 10.5 | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Sodium Sarcosinate | 40 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Sodium Silicate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Sulfate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Sulfate/Sodium Sulfite | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Sulfhydrate (see Sodium Hydrosulfide) | | | | | | | |
| Sodium Sulfide | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Sulfite | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Sulphite/Sodium Hydroxide/Toluene | 22/10/5 | 25/80 | 40/100 | 40/100 | 25/80 | 40/100 | NR |
| Sodium Tartrate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Tetraborate | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Sodium Thiocyanate | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Sodium Thiosulfate | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Sodium Tripolyphosphate | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sodium Xylene Sulfonate | All | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 | |
| Solder Plate (see Plating Chemicals) | | | | | | | |
| Solvent Extraction Solutions: 3% Isodecanol, 6% Alamine* 336, 91% Kerosene | | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Solvent Extraction Solutions: 4% Trioctylphosphine Oxide (TOPO), 4% Di 2-Ethylhexyl Phosphoric Acid (DEHPA), 92% Kerosene | | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Sorbitol Solutions | All | 70/160 | 70/160 | 80/180 | 70/160 | 70/160 | |
| Sour Crude Oil (see Crude Oil) | | | | | | | |
| Soy (Soya) Sauce | | 70/160 | 70/160 | | | | |
| Soya Oil | 100 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| Spearmint Oil | 100 | 40/100 | 40/100 | | | | |
| Stannic Chloride | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Stannous Chloride | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Steam, Dry, No Condensation | | 100/210 | 105/220 | 105/220 | 100/210 | 105/220 | 80/180 |
| Steam, Wet, Condensation | | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Stearic Acid | All | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| Styrene | 100 | NR | 40/100 | 50/120 | NR | 40/100 | NR |
| Styrene Acrylic Emulsion | All | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Styrene-Butadiene Latex | All | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 | 60/140 |
| Succinonitrile, Aqueous | All | 25/80 | 40/100 | 40/100 | 25/80 | 40/100 | NR |
| Sugar/Sucrose | All | 100/210 | 100/210 | | | | |
| Sugar Beet, Liquor | All | 80/180 | 80/180 | | | | |

* Cognis

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|--------------------------------|-------------------------------------|--------------|--------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Sugar Cane, Liquor & Sweetwater | All | 80/180 | 80/180 | | | | |
| Sulfamic Acid | 0.5 - 10 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sulfamic Acid | 11 - 15 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 65/150 |
| Sulfamic Acid | 16 - 25 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Sulfamic/Boric/ Glycolic Acid | 0.5 - 25/0.5 - 30/ 0.5 - 10 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | |
| Sulfanilic Acid (meta) | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sulfanilic Acid (para) ⁴ | All | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sulfate Process Noncondensable Gases (see Flue Gas) | | | | | | | |
| Sulfated Detergents (see Sulfonated Detergents) | | | | | | | |
| Sulfated Tall Oil Fatty Acid (see Tall Oil) | 1 - 70 | | | | | | |
| Sulfides Scrubbing with Caustic (see Sodium Hydroxide) | | | | | | | |
| Sulfite/Sulfate Liquors (Pulp Mill) | | 95/200 | 95/200 | 95/200 | 95/200 | 95/200 | 80/180 |
| Sulfonated Detergents | 100 | 70/160 | 80/180 | 80/180 | 70/160 | 80/180 | 70/160 |
| Sulfur Chloride | Fumes | 95/200 | 95/200 | 95/200 | 95/200 | 95/200 | 80/180 |
| Sulfur Chloride | 100 | NR | NR | LS | NR | NR | NR |
| Sulfur Dioxide (see Flue Gas) | | | | | | | |
| Sulfur Trioxide, Dry ¹⁶ | Fumes | 100/210 | 100/210 | 150/300 | 100/210 | 100/210 | 80/180 |
| Sulfur Trioxide, Wet (see Sulfuric Acid) | | | | | | | |
| Sulfur, Molten (Dry) ¹⁶ | 100 | | 120/250 | 150/300 | | 120/250 | |
| Sulfur, Wettable, Fungicide ⁴ | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Sulfuric/Nitric/ Phosphoric Acids | 0 - 13/ 0 - 11/0 - 30 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | |
| Sulfuric Acid | 0.5 - 25 | 100/210 | 105/220 | 105/220 | 100/210 | 105/220 | 80/180 |
| Sulfuric Acid | 26 - 50 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sulfuric Acid | 51 - 70 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Sulfuric Acid ¹⁵ | 71 - 75 | 40/100 | 50/120 | 80/180 | 40/100 | 50/120 | 40/100 |
| Sulfuric Acid ^{2,15} | 76 - 80 | 40/100 | 40/100 | 50/120 | 40/100 | 40/100 | |
| Sulfuric Acid ¹⁵ | > 80 | NR | NR | LS | NR | LS | NR |
| Sulfuric Acid/ Ammonium Bifluoride ¹ | 0 - 75/0.1 - 3 | 40/100 | 50/120 | 65/150 | 40/100 | 50/120 | |
| Sulfuric Acid/Copper Sulfate | 0 - 25/1 - 35 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |
| Sulfuric Acid/Copper Sulfate/ Sodium Persulfate/EDTA | 13/12/1/1 | 55/130 | 55/130 | 55/130 | 55/130 | 55/130 | 55/130 |

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|--|-------------------------------------|-------------------------------------|-----------|-----------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Sulfuric Acid/Hydriodic Acid | 60/20 | 40/100 | 40/100 | 50/120 | 40/100 | 40/100 | |
| Sulfuric Acid/ Hydrofluoric Acid ^{1,2} | 25/10 | 40/100 | 45/110 | 50/120 | 40/100 | 40/100 | |
| Sulfuric Acid/ Hydrofluoric Acid ^{1,2} | 10/10 | 40/100 | 50/120 | 65/150 | 40/100 | 40/100 | |
| Sulfuric Acid/ Hydrogen Peroxide ³ | 1 - 20/1 - 10 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | |
| Sulfuric Acid/Hydrogen Peroxide/ Ammonium Sulfate/ Copper Sulfate ³ | 10/5/5/5 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | |
| Sulfuric Acid/Hydrogen Sulfide | 1 - 50/0 - 10 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sulfuric Acid/Methanol | 30/5 | | 40/100 | 50/120 | | | |
| Sulfuric Acid/Nitric Acid | 20/5 | 65/150 | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 |
| Sulfuric Acid/Phosphoric Acid | 0 - 25/0 - 25 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Sulfuric Acid/Sodium Chromate ⁶ | | | | | | | |
| Sulfuric Acid/Sodium Dichromate, (see Sulfuric Acid/ Chromic Acid Mixture) | | | | | | | |
| Sulfuric Acid/ Hydrochloric Acid ^{8,9,13} | 50/15 | 40/100 | 45/110 | 50/125 | 40/100 | 50/120 | |
| Sulfuric Acid/ Hydrochloric Acid ^{8,12} | 1 - 25/1 - 10 | 80/180 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sulfuric Acid/ Hydrofluoric Acid ^{1,2} | 1 - 20/3 - 6 | 55/130 | 55/130 | 60/140 | 55/130 | 60/140 | 40/100 |
| Sulfuric Acid/Hydrofluoric Acid | 30 - 35/3 - 5 | LS | LS | LS | LS | LS | LS |
| Sulfuric Acid/Inorganic Salts | 0.5 - 20/0.5 - 50 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Sulfuric Acid/Inorganic Salts | 21 - 50/0.5 - 20 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Sulfuric Acid/Sulfate Salts, Max. Total Concentration 80%, (see Sulfuric Acid) | | | | | | | |
| Sulfuric Acid/Chromic Acid Mixture (Maximum Total Concentration 10%) | | 50/120 | 65/150 | 65/150 | 50/120 | 65/150 | 50/120 |
| Sulfuric/Hydrochloric/ Hydrofluoric/Phosphoric Acids/ Chlorinated Solvents | 40/20/5/35/1 | NR | NR | LS | NR | LS | NR |
| Sulfuric/Hydrofluosilicic Acids/MIBK ^{1,2} | 25/10/2 | LS | 40/100 | 50/120 | LS | 40/100 | |
| Sulfuric/Lactic Acids/ Sodium Sulfate | 50/20/0 - 10 | 40/100 | 50/120 | 65/150 | 40/100 | 50/120 | 40/100 |
| Sulfurous Acid | 10 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 |
| Superphosphoric Acid (76% P ₂ O ₅) | 105% H ₃ PO ₄ | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Surfactant, Anionic | All | 40/100 | 50/120 | 50/120 | 40/100 | 40/100 | |

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|--|--------------------|-------------------------------------|--------------|--------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Surfactant (see under chemical name) | | | | | | | |
| Tall Oil (Storage) | 100 | 95/200 | 105/220 | 105/220 | 95/200 | 105/220 | |
| Tall Oil Reactor ⁶ | | 100/210 | 105/220 | 105/220 | 100/210 | 105/220 | |
| Tallow/Sulfuric Acid | 99/1 | 80/180 | 80/180 | | | | |
| Tannic Acid | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| Tap Water, Hard ² | All | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Tap Water, Soft ² | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Tartaric Acid | > 0.5 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| t-Butyl Methyl Ether (MTBE) | 20 | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | 30/80 |
| t-Butyl Methyl Ether (MTBE) | 100 | NR | 25/80 | 25/80 | NR | 25/80 | NR |
| Tetrabutyltin | 100 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Tetrachloroethane | 100 | 40/100 | 50/120 | 55/130 | 40/100 | 50/120 | NR |
| Tetrachloroethylene (Perchloroethylene) | 100 | 25/80 | 40/100 | 50/120 | 25/80 | 50/120 | NR |
| Tetrachloropyridine | 100 | 25/80 | 50/120 | 50/120 | 25/80 | 50/120 | NR |
| Tetrahydrofuran | 0-5 | 40/100 | 40/100 | 50/120 | 40/100 | 50/120 | |
| Tetrahydrofuran | 10-100 | NR | NR | LS | NR | NR | NR |
| Tetrahydrofuran, Fumes, no condensation or coalescence | Fumes | | | 80/180 | 80/180 | 80/180 | |
| Tetramethyl Ammonium Hydroxide ¹ | 0 - 10 | 50/120 | 40/100 | | 50/120 | 40/100 | |
| Tetra-n-Butylammonium Hydroxide ^{1,2} | 40 | 40/100 | 40/100 | | 40/100 | 40/100 | |
| Tetra-n-Butylphosphonium Hydroxide ^{1,2} | 40 | 40/100 | 40/100 | | 40/100 | 40/100 | |
| Tetrapotassium Pyrophosphate | 0 - 60 | 55/130 | 65/150 | 65/150 | 55/130 | 65/150 | 55/130 |
| Tetrasodium Ethylenediaminetetraacetic Acid (Tetrasodium Salt of EDTA) | All | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 | 80/180 |
| Textone Liquid Product (50% Aqueous Solution of Sodium Chlorite, see there) | | | | | | | |
| Thermal Oxidizer (HCl Absorption) (see Flue Gas, Wet) | | | | | | | |
| Thioglycolic Acid (see Mercaptoacetic Acid) | | | | | | | |
| Thionyl Chloride | 100 | NR | NR | LS | NR | NR | NR |
| Thiourea | 0 - 50 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Tin Fluoborate Plating Bath: 18% Stannous Fluoborate, 7% Tin, 9% Fluoboric Acid, 2% Boric Acid ¹ | | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Titanium Dioxide | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|--|-----------------|-------------------------------------|-----------|---------------------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Titanium Dioxide/Sulfuric Acid | 0 - 30/30 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Titanium Tetrachloride | All | 65/150 | 80/180 | 80/180 | 65/150 | 80/180 | |
| Tobias Acid (2-Naphthylamine-1-Sulfonic) ⁶ | 100 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | |
| Toluene | 100 | 25/80 | 40/100 | 50/120 | 25/80 | 40/100 | NR |
| Toluene Sulfonic Acid ⁶ | > 0.5 | 80/180 | 95/200 | 100/210 | 95/200 | 100/210 | |
| Toluene, Fumes, no condensation or coalescence | Fumes | | 65/150 | 80/180 | 80/180 | 80/180 | |
| Toluidine (o-, p-, m-) | 100 | NR | NR | 20/70 | NR | NR | NR |
| Tomato Sauce | All | 90/190 | 90/190 | | | | |
| Transformer Oils (Ester types) | 100 | 50/120 | 65/150 | 65/150 | | 65/150 | |
| Transformer Oils (Silicone and Mineral Oils) ¹⁶ | 100 | 100/210 | 120/250 | 150/300 | 110/230 | 120/250 | |
| Tributyl Phosphate | 100 | 50/120 | 60/140 | 60/140 | 50/120 | 60/140 | 40/100 |
| Trichloroacetic Acid (see Chloroacetic Acid) | | | | | | | |
| Trichloroethane | 100 | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | NR |
| Trichloroethylene | 100 | NR | NR | LS | NR | NR | NR |
| Trichloromonofluoromethane (see Freon 11) | | | | | | | |
| Tricresyl Phosphate | 100 | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 | |
| Triethanolamine | 100 | 50/120 | 50/120 | 65/150 | 50/120 | 50/120 | NR |
| Triethylamine | All | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | NR |
| Triethylamine/Triethylamine Hydrochloride/ Hydrochloric Acid ⁹ | 50/20/5 | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | NR |
| Triethylene Glycol (see Ethylene Glycol) | | | | | | | |
| Trifluoroacetic Acid (see Chloroacetic Acid) | | | | | | | |
| Trimethyl Ammonium Chloride (Trimethylamine HCl, TMA-HCl) | 70 | 40/100 | 40/100 | 50/120 ⁷ | 40/100 | 40/100 | 40/100 |
| Trimethyl Benzene | 100 | 25/80 | 40/100 | 50/120 | 25/80 | 50/120 | NR |
| Trimethylamine | 20 | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | NR |
| Trimethylamine | 100 | 25/80 | 25/80 | 40/100 | 25/80 | 25/80 | |
| Trimethylamine, Fumes, no condensation or coalescence | Fumes | | | 80/180 | 80/180 | 80/180 | |
| Trimethylene Chlorobromide | | NR | 25/80 | 40/100 | NR | 25/80 | NR |
| Trioctyl Phosphine Oxide/ Di 2-Ethylhexyl Phosphoric Acid (DEHPA)/Kerosene | 4/4/92 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | |
| Trioctylphosphate | 100 | 70/160 | 70/160 | 80/180 | 70/160 | 70/160 | 40/100 |
| Tripropylene Glycol (see Ethylene Glycol) | | | | | | | |

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|--------------------|-------------------------------------|--------------|--------------|-----------------|---------------|---------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Trisodium Phosphate TRITON X-100 Wetting Agent (see Ethylene Glycol) | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Turpentine Tween Surfactant (see Ethylene Glycol) | 100 | 65/150 | 100/210 | 100/210 | 65/150 | 100/210 | 40/100 |
| Ultrawet* Surfactant (see Sodium Dodecylbenzenesulfonate) | | | | | | | |
| Uran Fertilizer Urea – Ammonium Nitrate Composition: 44.3% Ammonium Nitrate, 35.4% Urea, 20.3% Water | | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| Uranium Extraction (see Kerosene) | | | | | | | |
| Urea | 0 - 50 | 70/160 | 70/160 | 70/160 | 70/160 | 70/160 | 65/150 |
| Urea Formaldehyde Resin | All | 40/100 | 50/120 | 50/120 | 40/100 | 50/120 | 40/100 |
| Urea/Ammonium Nitrate/Water | 35/44/20 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 | 65/150 |
| V Urine (see Urea) | All | | | | | | |
| Vanillin Black Liquor | | 50/120 | 50/120 | | | | |
| VERSENE 100 Chelating Agent (see also Tetrasodium Ethylenediaminetetraacetic Acid) | All | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 | 80/180 |
| VERSENE Chelating Agents (others) | All | 50/120 | 50/120 | 50/120 | 50/120 | 50/120 | |
| Vetran 650 ¹ (16.7 Vol. % VERSENE 100 Aqueous Solution, pH 9.5 - 10) | | 80/180 | 80/180 | 65/150 | 80/180 | 65/150 | 80/180 |
| Vidden** D Fumigant (see Dichloropropane) | | | | | | | |
| Vinegar | 100 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 65/150 |
| Vinyl Acetate | 20 | 40/100 | 40/100 | 40/100 | 40/100 | 40/100 | NR |
| Vinyl Acetate | 100 | NR | NR | LS | NR | NR | NR |
| Vinyl Chloride | 100 | NR | NR | LS | NR | NR | NR |
| W Vinyl Chloride Fumes, no condensation | All | | | 80/180 | 80/180 | 80/180 | |
| Vinytoluene | 100 | 25/80 | 50/120 | 50/120 | 25/80 | 50/120 | NR |
| VORANOL ** P-400 Polyol (see Ethylene Glycol) | | | | | | | |
| Water Deionized ² | 100 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Water Vapor, no condensation (see Flue Gas, Dry) | | | | | | | |

* Mach I

**Dow Chemical

Chemical Resistance Table: Maximum Service Temperatures for DERAKANE and DERAKANE MOMENTUM™ Resins—*continued*

| Chemical Environment | Concentration % | DERAKANE or DERAKANE MOMENTUM Resin | | | | | |
|---|-----------------|-------------------------------------|-----------|-----------|--------------|------------|------------|
| | | 411 °C/°F | 441 °C/°F | 470 °C/°F | 510A/C °C/°F | 510N °C/°F | 8084 °C/°F |
| Water Vapor, Wet ² | Sat'd | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Water, Distilled ² | 100 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Water, Phenol (see Phenol) | | | | | | | |
| Water, Sea, Desalination | All | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Water, Steam Condensate ² | 100 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Water, Tap, Hard ² | 100 | 100/210 | 100/210 | 100/210 | 100/210 | 100/210 | 80/180 |
| Water, Tap, Soft ² | 100 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Whey | All | 65/150 | 65/150 | | | | |
| White Liquor (Pulp Mill) ^{1,2} | All | 80/180 | 80/180 | 40/100 | 80/180 | 80/180 | 80/180 |
| Xylene | 100 | 25/80 | 40/100 | 50/120 | 25/80 | 50/120 | NR |
| Xylene, Fumes, No Condensation or Coalescence | Fumes | | 65/150 | 80/180 | 80/180 | 80/180 | |
| Xylene/Methyl Ethyl Ketone/ Butyl Acetate/Methyl Acetate | 50/20/20/10 | NR | NR | LS | NR | NR | NR |
| Zinc Chloride | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Zinc Cyanide Plating Bath, 9% Zinc and 4% Sodium Cyanides, 9% Sodium Hydroxide ^{1,2} | | 80/180 | 80/180 | 40/100 | 80/180 | 80/180 | 80/180 |
| Zinc Electrolyte (Zinc Sulfate, 35 g/L Sulfuric Acid), see Sulfuric Acid | | | | | | | |
| Zinc Fluoborate Plating Bath, 49% Zinc Fluoborate; 5% Ammonium Chloride, 6% Ammonium Fluoborate ¹ | | 95/200 | 95/200 | 95/200 | 95/200 | 95/200 | 80/180 |
| Zinc Nitrate | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |
| Zinc Phosphate (slurry) | > 0.5 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 | 80/180 |
| Zinc Sulfate | Sat'd | 100/210 | 120/250 | 120/250 | 100/210 | 120/250 | 80/180 |

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