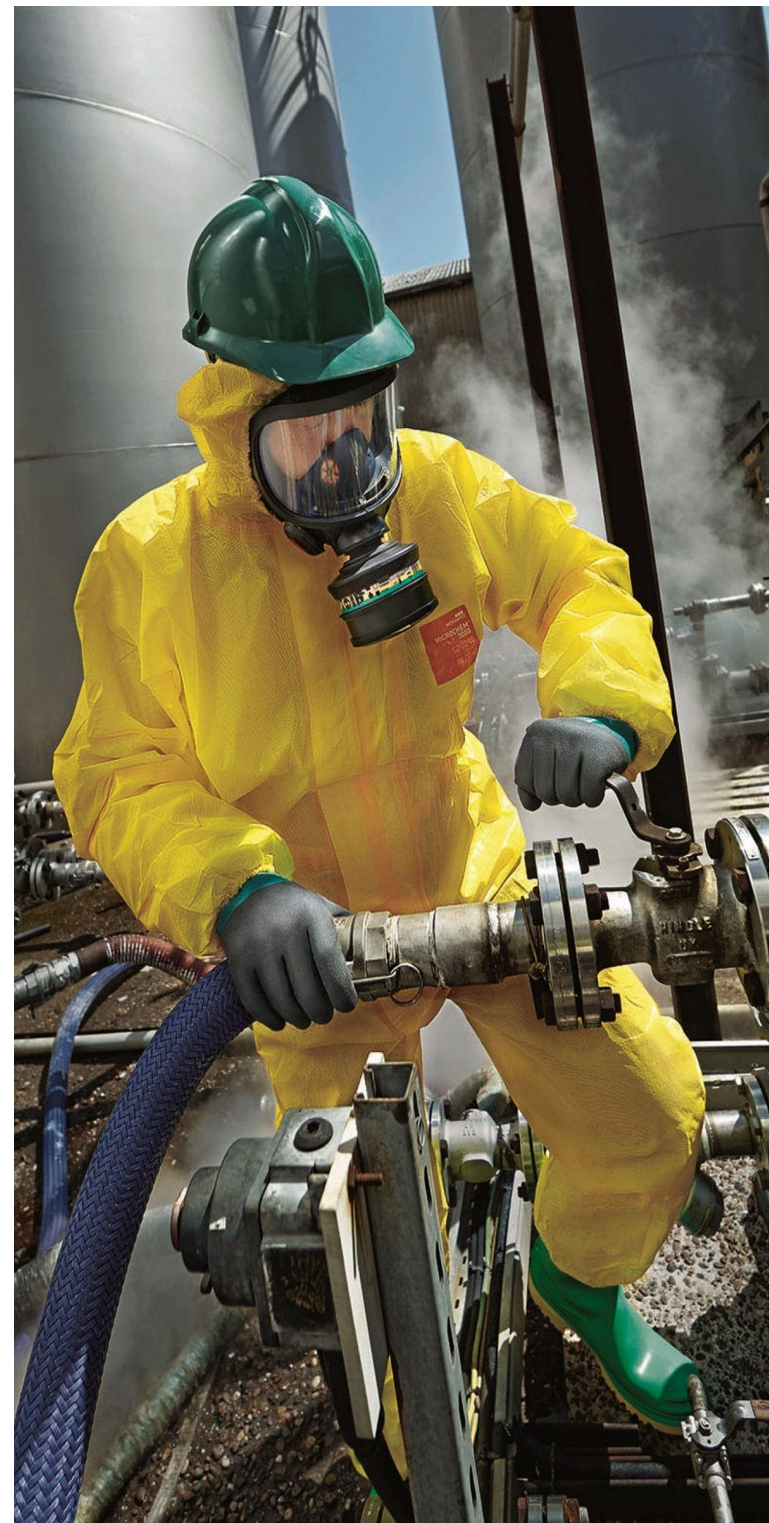


アンセルガーディアンケミカルサンプルレポート

AnsellGUARDIAN® Chemical Report

6月 12, 2024

Ansell



免責事項

本報告書には、選択された化学物質に対する特定の個人用防護具（PPE）のバリア性能に関連する詳細が記載されています。本情報は、企業の安全衛生担当の専門スタッフが、使用を意図している環境において最高の保護を提供する可能性のあるアンセルのPPEについてより多くの情報を考慮した上で意思決定を行うことを可能にし、企業のためのリスク評価の実施をサポートするために提供されます。

透過時間は安全な耐用時間と同一ではありません。安全な耐用時間は、個人用保護具（PPE）が適切に着用されているかどうか、周囲温度、化学薬品の毒性、その他数々の要因によって異なります。貴社の安全衛生担当者には、実行中の作業に対して適切なPPEを選択する前に、リスク評価を実施する責任があります。製品の詳細についてご相談される場合は、弊社までお問い合わせください。手袋とPPEが持つバリア性能の推定値は、実験室の試験結果から推定された内容および化学薬品の成分に関する情報に基づいています。混合化学薬品の相乗効果は説明されていません。

推定値は、より良い根拠を提供する新しい試験が行われた場合、変更される場合があります。これらの理由により、本レポートに記載されている情報は必ず参考情報としてのみ使用してください。Ansellは、本レポートに記載されている保証を含め、全ての記述に関しましては、一切の責任を負いません。

手の保護の凡例

透過破過時間		
	<10	推奨されない
	10-30	飛沫に対する保護
	30-60	飛沫に対する保護
	60-120	中程度の保護
	120-240	中程度の保護
	240-480	優れた保護
	>480	優れた保護

正規化された透過破過時間は、 $1.0\mu\text{g}/\text{cm}^2/\text{min}$ (EN ISO 374 に基づく) または $0.1\mu\text{g}/\text{cm}^2/\text{min}$ (ASTM 739 に基づく) の速度で評価対象の化学物質が素材に透過する時間 (単位 : 分) です。

PS = 物理的状态: A = エアロゾル,
G = 気体, L = 液体 , P = ペースト,
S = 固体

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透過破過時間

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が付いた色付きのセルは、認定された研究所によって生成された実験的に決定されたデータに対応し
ています。残りのセルは推定に対応しています

素材				LLDPE	Viton Butyl	Nitrile /Neoprene	Nitrile	Neoprene	Nitrile	Neoprene /Natural Rubber	PVA	Nitrile /Neoprene	Nitrile
厚さ (mm/mil)				0.062 mm 2.5 mil	0.30 mm 12 mil	0.38 mm 15 mil	0.56 mm 22 mil	0.45 mm 18 mil	0.43 mm 16.9 mil	0.68 mm 26.8 mil	N.A.	0.20 mm 7.9 mil	0.125 mm 4.9 mil
ブランド				AlphaTec®	AlphaTec®	AlphaTec®	AlphaTec® Solvex®	AlphaTec®	AlphaTec® Solvex®	AlphaTec®	AlphaTec®	MICROFLEX®	TouchNTuff®
製品群				02-100	38-612	53-001	37-185.165 /58-008	29-865	37-676	87-224	15-554	93-260.360	92-600.605 93-300.700
CAS	化学薬品名	%	PS										
75-05-8	アセトニトリル	100	I	>480' C	120-240'	60-120'	30' C	20' C	<10'	13' C	150' C	5' C	<10'
67-64-1	アセトン	100	I	>480' C	93' C	10-30'	<10'	10' C	<10'	<10'	60-120'	3' C	1' C
109-89-7	ジエチルアミン	100	I	>480' C	19' C	30-60'	51' C	<10'	10-30'	<10'	<10'	6' C	3' C
109-99-9	テトラヒドロフラン	100	I	>480' C	10' C	10-30'	10-30'	<10'	<10'	<10'	30-60'	2' C	<10'
108-88-3	トルエン	100	I	>480' C	313' C	30-60'	34' C	<10'	10-30'	<10'	>480' C	6' C	<10'
7664-39-3	フッ化水素酸	40	I	>480'	>480'	>480'	120-240'	>480'	120-240'	>480'	<10'	30-60'	<10'
142-82-5	ヘプタン	100	I	>480' C	>480' C	>480'	>480'	60-120'	>480'	30-60'	>480' C	>480' C	>480' C
50-00-0	ホルムアルデヒド	37	I	>480' C	>480' C	>480'	>480'	240-480'	>480'	240-480'	<10'	>480' C	>480' C
67-56-1	メタノール	100	I	51' C	363' C	240-480'	60-120'	73' C	30-60'	22' C	<10'	10-30'	3' C
75-15-0	二硫化炭素	100	I	>480' C	138' C	10-30'	<10'	<10'	<10'	<10'	>360' C	1' C	<10'
75-09-2	塩化メチレン	100	I	55' C	36' C	<10'	<10'	<10'	<10'	<10'	>360' C	1' C	<10'
1336-21-6	水酸化アンモニウム	25	I	10-30'	>480'	240-480'	>480'	>480'	120-240'	10-30'	<10'	65' C	25' C
1310-73-2	水酸化ナトリウム	40	I	>480' C	>480' C	>480'	>480'	>480' C	>480'	>480'	<10'	>480' C	>480' C

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ブランド				AlphaTec®	AlphaTec®	AlphaTec®	AlphaTec® Solvex®	AlphaTec®	AlphaTec® Solvex®	AlphaTec®	AlphaTec®	MICROFLEX®	TouchNTuff®
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CAS	化学薬品名	%	PS										
7697-37-2	硝酸	65	I	>480'	>480'	>480'	120-240'	>480'	60-120'	240-480'	<10'	30-60'	6' C
7664-93-9	硫酸	96	I	>480' C	>480' C	120-240'	120-240'	60-120'	30-60'	60-120'	<10'	30-60'	15' C
7722-84-1	過酸化水素	30	I	>480'	>480' C	>480'	>360' C	>480' C	>480'	>360' C	<10'	480' C	41' C
64-19-7	酢酸	100	I	150' C	>480' C	240-480'	158' C	390' C	30-60'	60-120'	<10'	30' C	8' C
141-78-6	酢酸エチル	100	I	>480' C	10' C	10-30'	17' C	10' C	10-30'	10' C	360' C	4' C	<10'

Remarks

67-64-1

From a permeation breakthrough time perspective, Viton /Butyl gloves may offer medium to good protection against ketones. However these gloves will delaminate. Therefore caution should be taken and the practical performance of the gloves should be evaluated in the application.

Hydrogen fluoride/Hydrofluoric acid

What is Hydrofluoric acid/Hydrogen Fluoride?

Hydrogen fluoride (CAS# 7664-39-3) is an extremely dangerous, corrosive chemical and a contact poison, making it extremely hazardous even at low concentrations. It can exist as a colorless gas or as a fuming liquid, or it can be dissolved in water. When it is dissolved in water, it is called hydrofluoric acid.

What are the associated health risks of exposure to Hydrofluoric acid/Hydrogen Fluoride?

Hydrofluoric acid is readily absorbed by human tissues. However, it often shows no immediate noticeable effects because it reacts with the nerve endings at the point of contact. After this chemical has entered the tissue, it can enter the bloodstream and bones where it reacts with the calcium causing, among other things, **bone damage**, **gangrene**, **severe burns** and **death**.



In what forms can Hydrofluoric/Hydrogen Fluoride be found?

Hydrogen Fluoride Pure form; A gas at room temperature but it is often handled below 19.5 °C (67 °F); it is a liquid below this point. A colourless liquid or gas with an irritating odour.

Hydrofluoric acid Hydrogen Fluoride dissolved in water, can be up to 99% Hydrogen fluoride. A colourless liquid that at lower concentrations may be indistinguishable from water.

Where is Hydrofluoric acid/Hydrogen Fluoride used?

Hydrofluoric acid/Hydrogen fluoride is widely used in different industrial applications. It is utilized in different concentrations to produce refrigerants, herbicides, pharmaceuticals, gasoline, stainless steel kitchen products, aluminum, plastics, and electrical components.

In laboratories applications and industrial settings, hydrofluoric acid can be used for etching glass and enamel, removing rust, and cleaning brass and crystal. It also is used in manufacturing silicon semiconductor chips and as a catalyst in oil refineries to make high-octane gasoline as well as power nuclear reactors.

Role of PPE

Personal protective equipment must always be a last line of protection and wherever possible, proper safe handling practices must be used to limit or eliminate the amount of direct contact with hazardous chemicals.

A good permeation barrier to a chemical does not guarantee safety and careful selection must be made when choosing appropriate safety clothing. Appropriate PPE can only be selected after a full risk assessment to identify the hazards and decide what appropriate type of clothing that has been deemed necessary.

What kind of hand protection is needed for Hydrofluoric acid?

Hydrogen fluoride/Hydrofluoric acid

Depending on the concentration, an appropriate Hand protection can be used. Generally, the thick **butyl/Viotn, butyl** gloves provide good level of protection whereas **LLDPE** materials provide medium protection level. Even though the very low concentration of hydrofluoric acid can be **fatal**, other hand protection gloves materials could be considered when the end-user handles different concentrations.

What kind of body protection is needed using Hydrogen fluoride?

Barrier Information

The below suits may not be appropriate for all situations and may or may not provide a full permeation barrier. For a full list of breakthrough times please request a Chemical Guardian report.

Hydrogen Fluoride, Gas

As a gaseous hazard, a gas-tight suit may be considered, this would include the AlphaTec® 6000 and the AlphaTec® Super and up.

Under certain situations a risk assessment may find a gas-tight suit is not necessary, in which case the AlphaTec® 4000 and 5000 have both been tested against this gas, with the AlphaTec® 5000 having particularly good permeation times.

Hydrogen Fluoride, Liquid

Hydrogen Fluoride is a liquid when below 19.5 °C (67 °F), however it is often handled much colder than this. As our body protection range is not designed to offer any thermal protection, additional thermal protective clothing may have to be worn under the garment to prevent frostbite.

Several materials in our body protection range have been tested against Hydrogen fluoride liquid. The AlphaTec® 4000 may be suitable for lower levels of exposure while the AlphaTec® 5000 shows a good permeation barrier. For gas-tight suit options the AlphaTec® 6000 would be expected to offer a medium to good permeation barrier. AlphaTec® VPS, Flash and EVO would all be expected to show medium to good permeation barriers.

Hydrofluoric acid

The barrier offered by Ansell body protection suits will vary depending on the concentration of the Hydrofluoric acid handled. For general barriers, we would expect the AlphaTec® 3000 to show a barrier to concentrations of Hydrofluoric acid below 50 % and a medium barrier up to 75 %. We would expect the AlphaTec® 4000 to show a good barrier to concentrations of Hydrofluoric acid up to 75% and a medium barrier above this. We would expect the AlphaTec® 5000 to offer a good barrier at any concentration of Hydrofluoric acid.

In gas-tight suits category, we would expect a good barrier from the AlphaTec® 6000 at any concentration of Hydrofluoric acid and a good barrier from the AlphaTec® VPS, FLASH and EVO.

Although most of our non-gastight chemical protective suits offer at least some protection to this chemical, the AlphaTec® 4000 and 5000 may be considered for their greater mechanical strength.

Please contact Ansell Guardian Chemical Technical team if more information is desired.

Acetone

What is Acetone?

Acetone, or 2- propanone, is the simplest and smallest ketone that can be found naturally in the environment and can also be produced by industries. It is a colorless, highly volatile, and flammable liquid with a characteristic sweet, mint-like odor.

Pictogram



Signal word

Danger

What are the associated health risks of exposure to Acetone?

Acetone can affect you when inhaled and may be absorbed through the skin. Short term exposure can irritate the eyes, respiratory tract, and skin. Exposure to high concentrations can cause dizziness, lightheadedness, and unconsciousness. Repeated skin exposure to acetone can cause dryness, irritation, and skin cracking with redness. The effects of long-term acetone exposure have been mostly studied in animals, and include kidney, liver, and nerve damage, birth defects and male infertility

Where is Acetone used?

Acetone is used in the manufacture of many chemicals (e.g., acetic acid, chloroform) to produce plastics, fibers, paints, coatings, drugs and cleaning products. Acetone finds also wide applications in various industries as an organic solvent. Its complete miscibility (can mix at any concentration) with water and its miscibility with numerous other solvents permits its use with them, thereby increasing their individual efficiency. Low-grade acetone is commonly found in academic laboratory settings as a

glassware rinsing agent for removing residue and other contaminants. Acetone is also found commercially as the primary component in cleaning agents such as nail polish as well as superglue and removers. Because it is an excellent solvent, acetone *wipes* remove many substances other methods struggle with, therefore are suitable for *aerospace*, automotive and other *industrial* applications.

Role of PPE

Personal protective equipment must always be the last line of protection and wherever possible, proper safe handling practices must be used to limit or eliminate the amount of direct contact with hazardous chemicals.

A good permeation barrier to a chemical does not guarantee safety, therefore careful selection must be made when choosing appropriate PPE. The PPE can only be selected after a full risk assessment is conducted by Health and Safety Manager to identify all hazards in the workplace.

What kind of protection is needed for Acetone?

Since acetone is a polar molecule, non-polar gloves such as butyl (e.g., AlphaTec® 38-514, 38-520 and 38-560) provide good protection against pure acetone. AlphaTec® 02-100 also protects against it, however it cannot provide mechanical protection. The AlphaTec® 4000 material is suggested for body protection if a good permeation barrier is needed but the AlphaTec® 3000 material also offers a short term permeation barrier. For those applications, where the exposure is very limited (e.g., acetone wipes where acetone evaporates rapidly), Microflex® 93-260 and NPG-888 could be used for splash protection and dexterity, and penetration barriers such as the AlphaTec® 2000 may be considered. Thick natural latex gloves could also be used for splash protection, but not for prolonged contact.

Please contact AnsellGuardian® Chemical team if more information is desired.