

Prohibited items

- Matches
- Lighters
- All flammable materials
- Jewelry
- All metallic objects(watches etc.)
- Reading materials
- Oils and grease (Vaseline, hair oils, etc.)
- Hair Spray, make up
- Cell phones, pagers – all elec. devices
- Dentures
- Hard contact lenses, eye glasses
- Hearing aids
- Hand warmers
- Heat patches
- Unapproved fabric (street clothing, wool, silk, synthetic blankets, etc.)
- Velcro
- Perfumes
- Hair Perms
- **Anything deemed unsafe by center**

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NFPA 99 / Chapter 14 / Prohibited items by code

- Personal warming devices
- Cell phones and pagers
- Sparking toys
- Personal entertainment devices

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Non Prohibited Items / Center Provided

- 100% cotton garments
- Blend of cotton and polyester garments
- Water bottle, non glass
- Soft contacts
- Items deemed necessary and safe by medical director and safety director

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NFPA 20.3..5.4.3

“The physician or surgeon in charge, with the concurrence of the safety director, shall be permitted to use prohibited items in the chamber that are one of the following”

- 1.Suture material
- 2.Alloplastic devices
- 3.Bacterial barriers
- 4.Surgical dressings
- 5.Biological interfaces

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Hyperbaric Oxygen Therapy and Flammability of Topical Skin Care Products

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Hyperbaric Product Compatibility Study - **Abstract**

Product selection may determine whether or not proper skin care can be safely provided during hyperbaric oxygen therapy. Independent studies were conducted comparing the oxygen compatibility for six leading skin care products currently on the market. Oxygen compatibility was determined via autogenous ignition temperature (AIT) testing, oxygen index (OI) testing and heat of combustion (HoC) testing,

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Hyperbaric Product Compatibility Study - **Abstract**

AIT is a relative indication of a material's propensity for ignition, OI is a relative indication of a material's flammability, and HoC is the absolute value of a material's energy release upon burning. Products with a high AIX a high OI and a low HoC are recognized as being more compatible for application in oxygen-enriched environments. Furthermore, an Acceptability Index based on the above factors is used to rank overall oxygen compatibility. By way of example, the HoC value of Aquaphor Healing Ointment® from Beiersdorf AG, was more than five times

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Hyperbaric Product Compatibility Study - **Abstract**

greater than Remedy Skin Repair Cream™ from Medline Industries, Inc. Subsequently, Skin Repair Cream received an Acceptability Index rating approximately 25 times better than Aquaphor®. Additional skin care products included in the study were Aloe Vesta 2-in-1 Protective Ointment Skin Protectant® from Convatec, Remedy Calazime Protectant Paste® from Medline Industries Inc., Critic Aid Clear Moisture Barrier Ointment® from Coloplast Nutrashield Cream™ from Medline Industries, Inc. and Secura Protective Ointment® from Smith & Nephew.

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Hyperbaric Product Compatibility Study - Abstract

Application of flammable products during hyperbaric oxygen therapy imposes significant risks associated with ignition and is therefore strongly discouraged. Further studies are recommended to determine which products can provide proper skin protection and healing during hyperbaric oxygen therapy while maintaining strict fire safety standards.

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Hyperbaric Product Compatibility Study -Results

MATERIAL	AIT (°C)	HoC (CALORIES/GRAM)	OI (%)
Aloe Vesta 2-in-1 Protective Ointment Skin Protectant*	198	7735	30
Aquaphor Healing Ointment*	186	10869	25
Calazime Protectant Paste*	170	5915	25
Critic Aid Clear Moisture Barrier Ointment*	193	8879	21
Nutrashield Cream™	224	2111	55
Secura Protective Ointment *	205	10973	30
Skin Repair Cream™	179	1989	50

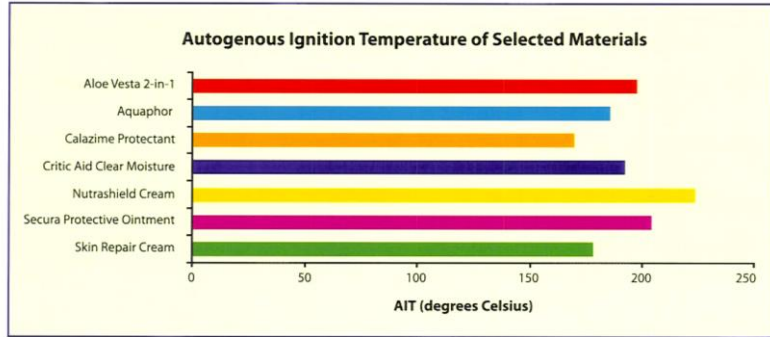
Table I. AIT indicates a material's propensity for ignition; HoC is an absolute value of a material's energy release upon burning; OI indicates a material's flammability. Oxygen compatible materials maintain high AITs, high OIs, and low HoC values¹⁶.

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Hyperbaric Product Compatibility Study -Results

Figure I. AIT is a relative indication of a material's propensity for ignition. Materials with high AITs result in higher Acceptability Indices ^{16,17,18}.

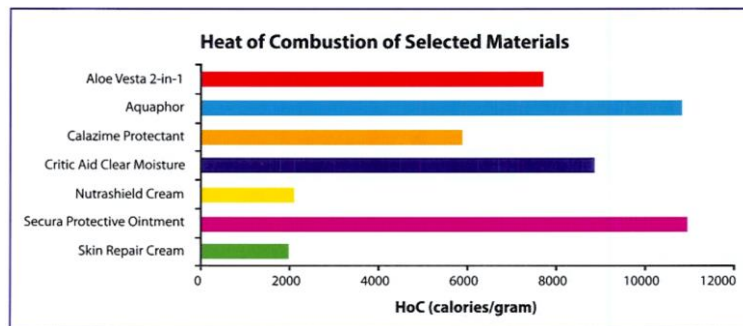


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Hyperbaric Product Compatibility Study -Results

Figure II. HoC is an absolute value of a material's energy release upon burning, which is an indication of its damage potential. Materials with low HoC values result in higher Acceptability Indices ^{16,17,18}.

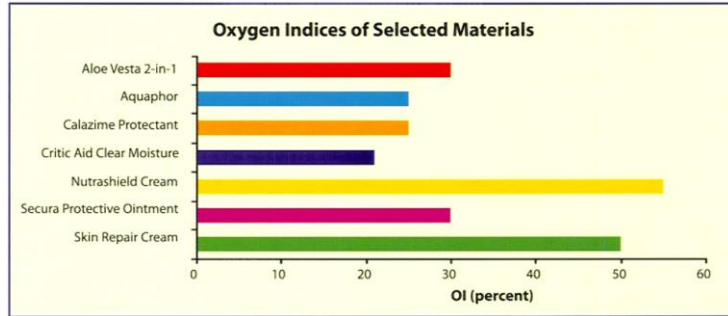


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Hyperbaric Product Compatibility Study -Results

Figure III. OI is a relative indication of a material's flammability. Materials with high OIs result in higher Acceptability Indices^{16,17,18}.

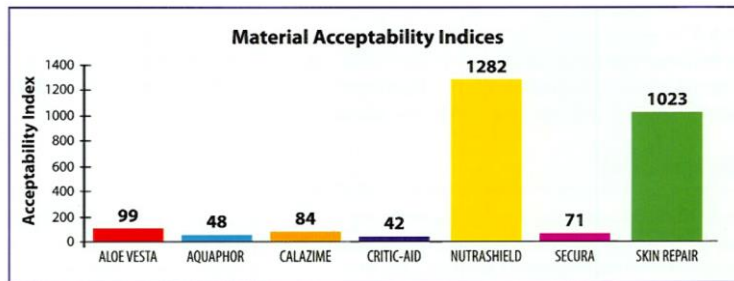


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Hyperbaric Product Compatibility Study -Results

Figure IV. Acceptability Indices are used to rank the oxygen compatibility of various materials. The Index is based on the following equation^{16,17,18}: $[(OI)^2 \times (AIT)] / (HoC)$



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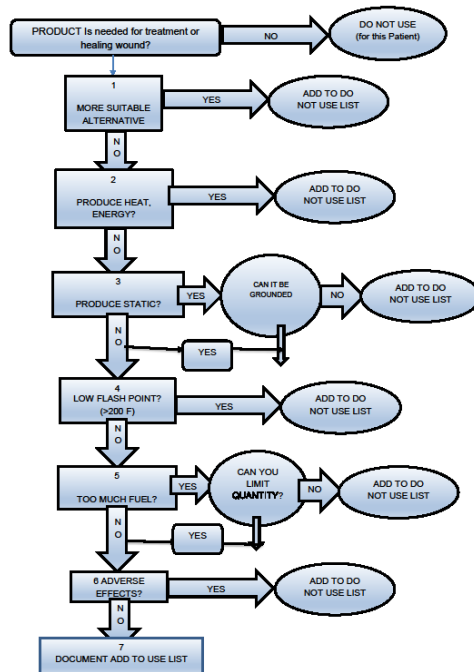


Hyperbaric Product Compatibility Study -Conclusions

The results displayed a wide range of AIT, HoC, and OI values, corresponding to significantly different Acceptability Indices. In particular, the HoC and OI values varied greatly among the seven skin care products tested. It seems that maintaining high OI values while preserving low HoC values is the characteristic most required for oxygen compatibility. During testing, a sustained fire was not achieved for Skin Repair Cream™. Although Skin Repair Cream™ achieved momentary flash-point behavior, the material would self-extinguish soon after the promoter flame was removed¹⁸. The water and silicone

base of Skin Repair Cream™ is most likely responsible for the product's self-extinguishing behavior. In contrast, the petrolatum, paraffin and/or mineral oil base of certain other products tested is likely to be responsible for the corresponding decrease in oxygen compatibility. Oxygen compatibility testing should be considered as an appropriate method of determining whether certain skin care products can be used safely and effectively during hyperbaric oxygen therapy. Further research concerning oxygen compatibility and product acceptability is suggested.

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Go – No Go?



Go – No Go?



Go – No Go?



Go – No Go?

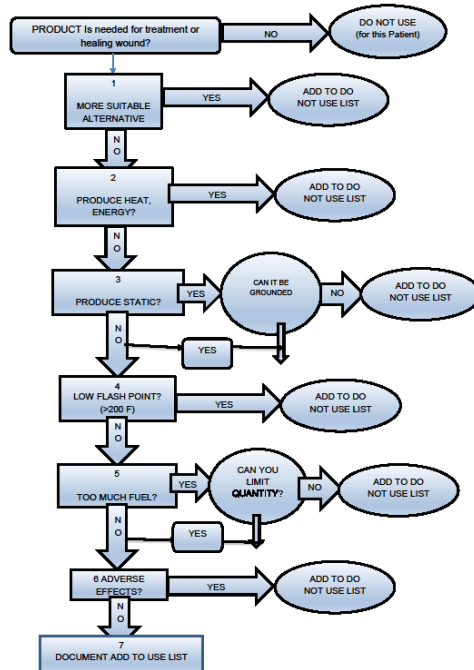


Group Exercise

- Two wound care dressings used in your clinic.
- Two questionable items you've run across that patients contained on their body
- Two items you have questions about
- Two items you have disallowed (no wound vac's)



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Managing Risk

- Add Moisture
- Grounding
- Conceder amount
- Time to next treatment
- Chamber Vent

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Change in when presented new evidence or guidelines



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