

Spray Foam Safety and Quality

Chris King

Safety Director, Anchor Insulation

Subsidiary of Installed Building Products



Served 20+ years with the Massachusetts Department of Correction. Retired in 2008 as Lieutenant from major penal institution for the criminally insane. This accounts for why a little unstable at times. Upon retiring from DOC, became Safety Manager with an O&M Contractor in the utility scale wind industry. Spent the next 6 years working as a High Angle Rescue Instructor and Construction Manager on wind turbines and cell towers. Upon turning 50, decided that tower climbing is a young man's sport and now keep my feet firmly planted on the ground as Anchor's Safety Director. Earned MS in OHS from Columbia Southern University in 2020. I still don't know what I want to be when I grow up.

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SPFA Antitrust Policy

"Our policy is to comply with all federal, state and local laws, including the antitrust laws. It is expected that all company member representatives involved in SPFA activities and SPFA staff will be sensitive to the unique legal issues involving trade associations and, accordingly, will take all measures necessary to comply with U.S. antitrust laws and similar foreign competition laws."

It is a per se violation of the federal antitrust laws for competitors to agree on prices, limitation of supplies, allocation of customers or territory, or boycotts. "Per se" means that no legal defense can be used to mitigate this automatic violation.

Even an agreement by competitors that is for the good of society and our industry may be a violation of the antitrust laws if it could affect competition.

If a topic of antitrust concern is raised at any time during a meeting, note your objection for the record. If the topic continues to be discussed, you should leave the room immediately and contact SPFA's general counsel and your company's attorney for further guidance.

Ensure that every SPFA meeting, where members are present, has an agenda, the agenda is followed, and minutes are kept by SPFA staff of the proceedings.

Understanding and acting on the requirements of U.S. and foreign antitrust and competition laws sometimes can be difficult. If you have a question about the propriety of activities or discussions in SPFA, you are encouraged immediately to contact your company's legal counsel and SPFA management.

Spanish Translation Disclaimer

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Open Cell vs. Closed Cell

What did GC, client, or architect specify?

Thermal / Vapor

R-value

Density



Safety Data Sheets

VS.

Technical Data Sheets



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PRODUCT DATA

PROPERTY	TEST METHOD	VALUE
R-VALUE @ 1"	ASTM C 518	7.5
R-VALUE @ 3.5"	ASTM C 518	24
CORE DENSITY (PCF)	ASTM D 1622	1.9
OPEN-CELL CONTENT %	ASTM D 6226	<5
DIMENSIONAL STABILITY%	ASTM D 2126	-7.66
TENSILE STRENGTH (PSI)	ASTM D 1623	46.9
COMPRESSIVE STRENGTH (PSI)	ASTM D 1621	32.2
AIR PERMEANCE	ASTM E 2178	-0.02
SURFACE BURNING CHARACTERISTICS	ASTM E 84	Class-1
RE-ENTRY PERIOD W/10 ACH	ASTM D8445-22A	1 Hour
RE-OCCUPANCY PERIOD W/10 ACH	ASTM D8445-22A	2 Hours
VISCOSITY-150 AT 77F (CP)		200
VISCOSITY-RESIN AT 77F (CP)		700

BURN CHARACTERISTICS

PROPERTY	TEST METHOD	VALUE
FLAME SPREAD INDEX	ASTM E 84	≤ 25
SMOKE DEVELOPMENT	ASTM E 84	≤ 450

THERMAL BARRIER NFPA286

TYPE	WFT	WALL	CEILING
DC315	14 MIL MIN	7.5 INCH MAX	9.5 INCH MAX
FLAME CONTROL 60-60A	14 MIL MIN	7.5 INCH MAX	9.5 INCH MAX
NO BURN XDPLUS THB	14 MIL MIN		

Housekeeping vs. Record Keeping



OSHA's Form 300 (Rev. 01/2004)

Log of Work-Related Injuries and Illnesses

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

Year 20
U.S. Department of Labor
Occupational Safety and Health Administration

You must record information about every work-related death and about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, medical treatment beyond first aid, loss of work time, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR Part 1904.8 through 1904.12. First, list the date that occurred for a single case. If you need it, you must complete an injury and illness incident report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Identify the person		Describe the case			Classify the case				Final disposition		Check the "history" column or check one type of illness				
(A) Case no.	(B) Employer's name	(C) Job title (e.g., Hauler)	(D) Date of injury or onset of illness	(E) Where the event occurred (e.g., Loading dock with van)	(F) Describe injury or illness, part of body affected, and object substance that directly injured or made person ill (e.g., Second degree burn on right forearm from ammonia spill)	(G) Classified as Work-Related Injury or Illness				(H) Days lost from work or restriction		(I) Check the "history" column or check one type of illness			
						Death	Days lost work	Job transfer or restriction	Other recordable cases	Any time lost	On job restriction	MT	MS	ML	MM
						(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
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Spray Foam Installers vs. Other Jobsite Trades

Can spray foam installers co-exist on job site with other trades?

Barriers

Signage/ red (Danger)



Re-entry vs. Re-occupancy

Determined by manufacturer.

Published in Technical Data Sheet.

Necessary ACH.

Unless otherwise noted, industry norms for re-entry/re-occupancy is 12/24 hours provided minimum .3 ACH.



Supplied Air vs. Cartridge Respirators

Excerpt from SPFA Model Health and Safety Program

Air Purifying Respirator (Cartridge) may be permitted if the airborne MDI concentration is no greater than 10 times the American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit value (TLV) or OSHA PEL. If an APR is selected, the cartridge must be equipped with an end of service life indicator (ESLI) certified by NIOSH, or a change-out schedule, based on objective information or data that will ensure that the cartridges are changed out before the end of their service life, must be developed and implemented.

Respiratory Physical vs. Fit Testing

Supplied Air



Cartridge



N95



Temperature vs. Pressure vs. Ratio

Refer to TDS

Bulk vs. Barrell

Insist on training from mfg.

Classroom and OJT.

Pursue PCP through SPFA

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VISCOSITY-RESIN AT 77F (CP)		700

BURN CHARACTERISTICS

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THERMAL BARRIER NFPA286

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DC315	14 MIL MIN	7.5 INCH MAX	9.5 INCH MAX
FLAME CONTROL 60-60A	14 MIL MIN	7.5 INCH MAX	9.5 INCH MAX
NO BURN XD/PLUS THB	14 MIL MIN		

Air Changes per Hour vs. Negative Pressure



Permeable Coveralls vs. Non-Permeable

Polyethylene
/Polypropylene Chemical-
Resistant
Coveralls



Summer weight
Breathable
Porous
Mesh
DO NOT USE!



Nitrile Gloves vs. Cotton



Refer to SDS

Inhalation vs. Absorption

White Paper authored by Dhmiter Bello et al-

Summary of Conclusion- Isocyanates, primarily diisocyanate monomers and polyisocyanates, are a leading cause of occupational asthma. Evidence indicates that in certain exposure settings human skin likely is an important route of isocyanate exposure and can contribute to the development of iso-cyanate asthma. This presumably occurs by isocyanate skin exposure inducing systemic sensitization, which then leads to isocyanate asthma after inhalation exposure.

Environmental Health Perspectives • VOLUME 115 | NUMBER 3 | March 2007, p333

Documented vs. Implied

Utilize “Spray Foam Insulation Acknowledgement” Form

Identifies responsibilities of Installer and Customer **in writing**.

No assumptions are to be made.

- Examples-
 - Shutting off HVAC/ Turning on HVAC
 - Leaving pets behind
 - Re-entry/Re-occupancy
 - Ventilation Plan
 - Temporary means of heat during colder months
 - Possible need for mechanical ventilation after SPF

OSHA Compliance vs. Best Practices

OSHA Compliance is the minimum standard.

Choose to do better.

SPFA

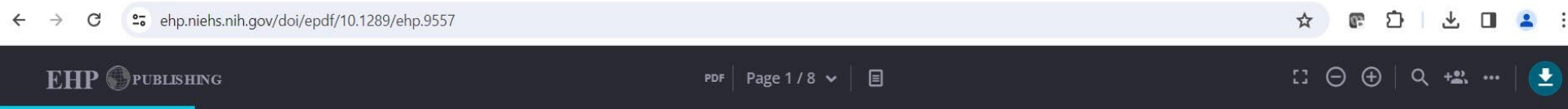
Summary

- **Let the quality of your work speak for itself.**
- **Utilize Safety as a marketing tool.**
- **View training days as investments in your #1 assets.**

References

■ Skin Exposure to Isocyanates: Reasons for Concern

Dhimiter Bello,^{1,2} Christina A. Herrick,³ Thomas J. Smith,¹ Susan R.



Review

Skin Exposure to Isocyanates: Reasons for Concern

Dhimiter Bello,^{1,2} Christina A. Herrick,³ Thomas J. Smith,¹ Susan R. Woskie,² Robert P. Streicher,⁴ Mark R. Cullen,⁵ Youcheng Liu,⁵ and Carrie A. Redlich⁵

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Questions, Comments, Concerns

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