HazCom Essentials SDS Check – *Even More Essential Post Recent Compliance and Enforcement Project Results*

Abstract: It's been almost 5 years since the end of transition periods for GHS adoption in major world economies considering that OSHA and EU both completed their transition to GHS adoption in 2015. Hazard Communication professionals have had a lot of time to learn and grow while ensuring the companies they work for are compliant. Despite this length of time, recently conducted compliance and enforcement projects have highlighted that there are problems with the information being provided on the SDSs being put out into the market. This is a concern for hazard communication professionals because we want to remain compliant and ensure that people are protected by the SDSs that we are generating. One essential skill for hazard communication is the ability to do a quick end to end SDS review to determine if there is anything out of place. This poster will highlight how to check the sections that were identified as areas of non-compliance in recent reports.

! High Level Issues found on SDSs !

Section 2
- Classifications - Mandatory published classifications not used; ingredient ranges not reflected in classifications; Missing hazard statements; Inconsistency with labeling; Inconsistency with sections 9, 11, 12
- Labeling - Incorrect label elements; Missing or incomplete supplemental information (EUH208)
- Other information section - missing additional hazards not identified (PBT, frostbite, simple asphyxiant)

Section 3
- Substances – substance identity is not correct.
- Mixtures – Concentration is too wide/Top of ranges consistent with material classifications; Incorrect or missing classifications for components

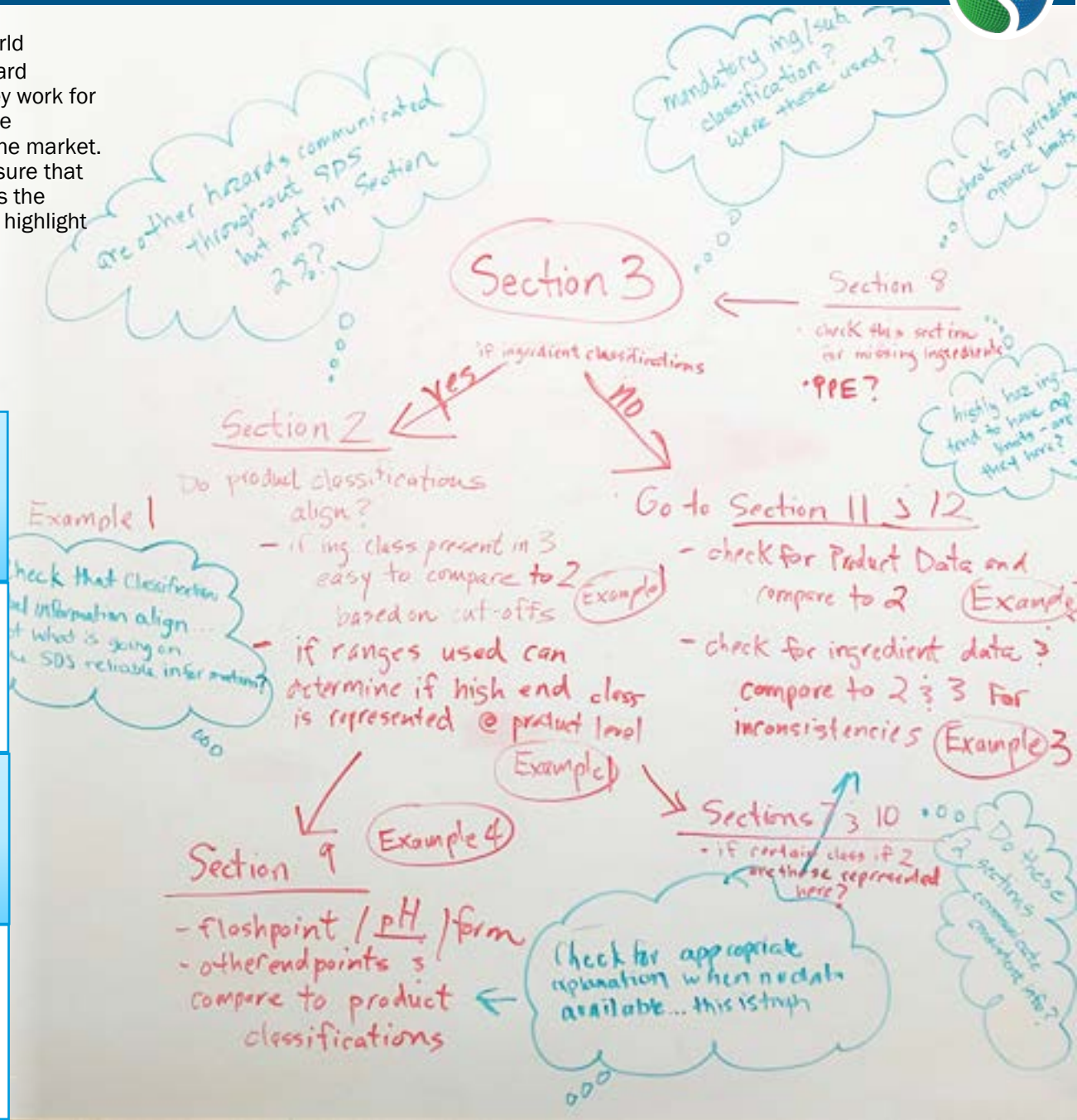
Section 9
- Missing some properties
- No reason as to why no data available or not applicable
- Extreme pH is not reflected in Section 2 classification
- Mixtures – not clear which properties apply to mixture vs. components

Sections 7 & 10
- Generic or missing information on handling or storage (ex: Use good ventilation – no specifics provided)
- Missing information on reactivity and incompatible materials

Section 8
- Exposure limits were not included
- Inadequate or missing engineering controls and PPE (glove specifics not provided)
- Environmental Controls – no useful information provided

Section 11
- Incorrect or missing tox data
- Contradiction between tox data and section 2 classifications
- No indication which data was used for classification
- Relevant hazard classes/effects are covered
- Criteria not met – inappropriately used

Section 12
- Section tough to assess because the data was so vague
- No justification provided why something was not relevant
- Inconsistencies with other sections
- Not clear on which data applies to substances vs mixture



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SDS Section #s | What to review | Example Review & Discussion | Additional Thoughts

Compare Section 3 to 2

Compare section 3 ingredient classifications to section 2 material classifications. In most cases - if a material is correctly classified, the section 3 ingredient classifications for at least health hazards should support the material classifications in section 2.

The pyrophoric classification here doesn't really make sense for an aerosol ingredient (maybe the wrong form of the ingredient was chosen for the SDS)

3.2 Mixtures

Chemical name	CAS No. EC No.	Concentration	Classification	H-phrase
butane	106-97-8 203-448-7	<100%	Flam. Gas 1 Press. Gas	H220
propane	74-98-6 200-827-9	<100%	Flam. Gas 1 Press. Gas	H220
xylene	1330-20-7 215-535-7	<100%	Flam. Liq. 3, Acute Tox. 4 *, Acute Tox. 4 *, Skin Irrit. 2	H226, H332, H312
zinc powder - zinc dust (pyrophoric)	7440-66-6 231-175-3	<100%	Water-react. 1, Pyr. Sol. 1	H260, H250
acetone	67-64-1 200-662-2	?	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3	H225, H319, H336

Propane and Butane are common propellants. The percentages of flammable ingredients could be consistent with flammable aerosol.

With the non-specific composition percentages for xylene and acetone it is impossible to know if the health hazards from these ingredients should really apply.

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008, Annex VI

Classification	Aerosol, Hazard category 3
Hazard statements	H229

2.2 Label elements

GHS labeling of the substance (in accordance with Regulation (EC) No 1272/2008, Annex VI)

Hazard statements	H229 - Pressurised container: May burst if heated.
Precaution statements	P210 Keep away from heat/sparks/open flames/hot surfaces. — No s… P251 Pressurized container: Do not pierce or burn, even after use.

2.3 Other hazards

Not applicable

- ✓ In section 2 check that classification and label information align.
- ✓ Ensure there aren't missing or unnecessary classifications, hazard statements or other label elements
- ✓ If mandatory classifications apply to substances for the jurisdiction the SDS was written for – were they applied appropriately?

Compare Sections 3, 11 & 12 to 2

When section 3 has no ingredient classifications, it can't be reviewed against section 2 classifications alone. Section 3 ingredients and concentrations along with information and test data from sections 11 & 12 have to be considered together and reviewed against section 2 classifications.

No ingredient classifications in section 3 (not always required)

Part 3: Composition / Information on Ingredients

Components	CAS No.	Concentration
2-butoxyethanol	111-76-2	< 5%
Sodium silicate	1344-09-8	< 5%

Part 2: Hazard(s) Identific…

Signal Word: **WARNING**
H303: May be harmful if swallowed
H313: May be harmful in contact with skin
H333: May be harmful if inhaled
Emergency Overview
Appearance: Clear, blue liquid, Non-viscous, mild…

Section 2 provides acute toxicity classifications. Would expect test data for ingredients or an ATE for the material section 11.

Part 11. Toxicological Information
Routes of Entry: Eye contact. Skin contact.
Toxicity to Animals: LD50: Not Available. LC50: Not Available.
Carcinogenicity: No ingredients known to be carcinogens.
Reproductive Toxicity: Not Applicable
Teratogenicity: No effects determined.
Mutagenicity: No effects determined.

Section 11 - no acute toxicity data – why the classifications?

Part 12. Ecological Information
Acute Data:
This product has not been tested for environmental effects.

Section 12 – no inconsistencies, but it doesn't really provide useful information for checking consistency.

- ✓ The test data and other information in sections 11 & 12 should support classifications in sections 2 and/or 3.
- ✓ This review is only possible if there is actually ingredient data in sections 11 & 12. This data is not always available on the SDS.
- ✓ If ingredient test data is not available the information communicated in sections 11 & 12 can at least be reviewed against section 2 for consistency.
- ✓ It is important when looking at sections 11 and 12 to also look for appropriate explanation when no data is available.
- ✓ Are other hazards communicated throughout the SDS but not in section 2 (extends beyond sections 11 & 12)?

Compare Section 2 to 9

Compare section 2 material classifications against various physical properties – pH, Flashpoint, auto-ignition temperature, viscosity and potentially others.

Part 9: Physical and Chemical Properties

Appearance & Odor	Light purple liquid with mild-sweet odor
Specific Gravity (H2O=1)	1.08
Boiling Point	100°C
pH	10.5-11.5
Flash point	Non- combustible T.C.C.
Relative vapor density	.62 AIR=1
Water solubility	Miscible
VOC	4.93%

Extreme pH

pH with an upper end of 11.5 which could indicate a classification of corrosive to skin is applicable. However section 2 has no corrosive or irritant classifications. This one is probably ok.

Flashpoint is non-combustible - not having flammable liquid classification makes sense.

This was the entire section 9. There are a number of required properties missing from this section.

Part 2: Hazard(s) Identification

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H333: May be harmful if inhaled
Emergency Overview
Appearance: Clear, blue liquid, Non-viscous, mild-sweet odor

- ✓ It is important when looking at section 9 to also look for appropriate explanation when no data is available.
- ✓ Be sure that all the properties that are required for the SDS are being represented even if there is no data for them or if they are not applicable.

Compare Section 2 to 7 & 10

Compare section 2 classifications against handling/ storage and stability/reactivity

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2.3 Other hazards

Not applicable

Section 7 has no precautions for safe handling, or storage – as a flammable aerosol something other than not applicable is expected here. This is inconsistent with precautionary statements from section 2

SECTION 7. HANDLING AND STOR…

7.1 Precautions for safe handling

Not applicable

7.2 Conditions for safe storage, including any incompatibilities

Not applicable

7.3 Specific end use(s)

Not applicable

Section 10 – slightly better, but incompatible materials differ from section 7.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity
Stable Not water reactive.
10.2 Chemical stability
No decomposition if stored normally.
10.3 Possibility of hazardous reactions
Not applicable
10.4 Conditions to avoid
risk of ignition Heat, flames and sparks.
10.5 Incompatible materials
oxidizing agents (strong)
10.6 Hazardous decomposition products
carbon monoxide, carbon oxides

- ✓ Do the handling/storage and stability/reactivity information make sense for the hazards and physical form of the material.
- ✓ It is also important that sections 7 and 10 communicate consistent information that lines up with the hazards of the material and the composition.