



Hazardous Communication (HAZCOM)

CPT Caroline Kalinowski
ACES Safety Officer





Why HAZCOM?

- ◆ ID & Evaluate Chemical Hazards
- ◆ Establish Communication Criteria

MSDS

PPE & Controls

Emergency Procedures

REDUCE ILLNESS or INJURY



Components of HAZCOM Program



- ◆ **Warning Labels**
- ◆ **Material Safety Data Sheets (MSDS)**
- ◆ **Training**
 - **Chemical handling, use, storage, & transport**
 - **MSDS: How to read & where to find**



Chemical Hazards



Physical Form

- ◆ solid
- ◆ liquid
- ◆ gas

Routes of Exposure

- inhale
- ingest
- skin absorption
- skin or eye contact



Categories of Chemical Hazards



Physical

(explosion, fire, chem reaction, projectile)

Flammables = **burns**

Combustibles = **heat & pressure**

- Oxidizers: *supply O₂ required to start or support fire*
- Pyrophorics: *spontaneously ignite at <130 °F*

Unstable Reactive Chem: ***produce hazards under normal conditions***



Types of Chemical Hazards



Health

- **irritants** (*skin rash*)
- **corrosives** (*skin burns*)
- **sensitizers** (*allergic response*)
- **target organ** (*i.e., liver damage*)
- **carcinogen** (*cancer*)
- **mutagen** (*genetic change in offspring*)
- **teratogen** (*damage developing fetus*)
- **cryogenic** (*freezes tissue*)

Illness

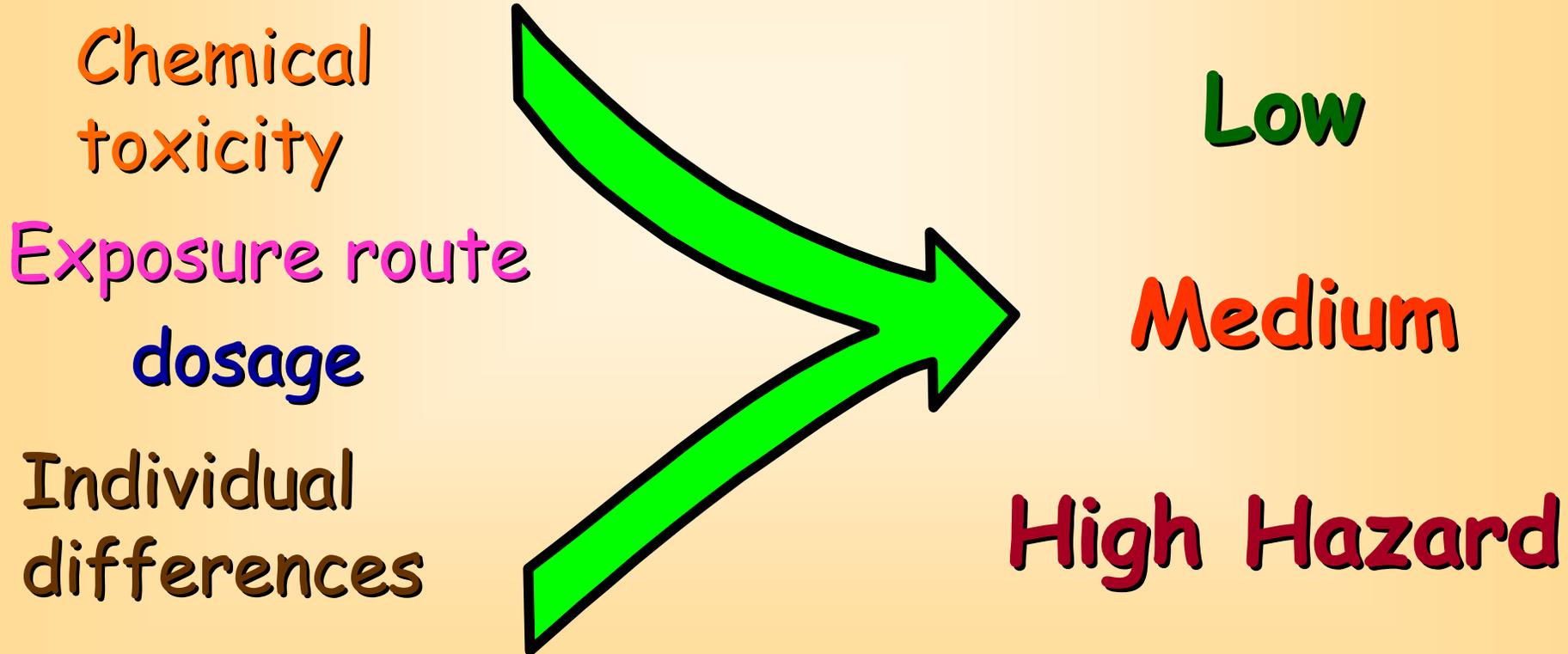
Injury



Degree of Hazards



Based on Health Effects





Methods of Control



- ◆ **Engineering**
(Mechanical Ventilation)
- ◆ **Substitution**
(JP-8 fuel replaces JP-4)
- ◆ **PPE**
(Gloves, Goggles, Ear plugs, etc....)
- ◆ **Administrative**
(MSDS, Labels, Training)



Reading the MSDS



- ◆ General Information
- ◆ Chemical Ingredients
- ◆ Physical Characteristics
- ◆ Fire & Explosion Hazard Data
- ◆ Reactivity Data
- ◆ Health Hazard Data
- ◆ Precautions for Safe Handling Data
- ◆ Control Measures
- ◆ Transportation
- ◆ Disposal



General Information

LIGHTHOUSE FOR BLIND OF HOUSTON -- DETERGENT, GENERAL PURPOSE (SPRAY-ON, WIPE-OFF) -
DETERGENT, GENERAL PURPOSE
MATERIAL SAFETY DATA SHEET
NSN: 7930009265280
Manufacturer's CAGE: 1A862
Part No. Indicator: C
Part Number/Trade Name: DETERGENT, GENERAL PURPOSE (SPRAY-ON, WIPE-OFF)

General Information

Item Name: **DETERGENT, GENERAL PURPOSE**
Company's Name: **LIGHTHOUSE FOR THE BLIND OF HOUSTON**
Company's Street: **3530 W DALLAS**
Company's City: **HOUSTON**
Company's State: **TX**
Company's Country: US
Company's Zip Code: **77019-1702**
Company's Emerg Ph #: **713-527-9561**
Company's Info Ph #: 713-527-9561
Record No. For Safety Entry: 004
Tot Safety Entries This Stk#: 007
Status: FE
Date MSDS Prepared: 16DEC92
Safety Data Review Date: 12JAN94
Supply Item Manager: GSA
MSDS Serial Number: BWCYS
Specification Number: P-D-1747
Hazard Characteristic Code: C4
Unit Of Issue: BX
Unit Of Issue Container Qty: 48 BOTTLES
Type Of Container: BOX

- ◆ **Product Name**
- ◆ **Manufacturer**
- ◆ **Address & phone number**



Chemical Ingredients



Ingredients/Identity Information

Proprietary: NO

Ingredient: **PROPYLENE GLYCOL T-BUTYL ETHER**

Ingredient Sequence Number: 01

Percent: **5 %**

NIOSH (RTECS) Number: UB3772000

CAS Number: 57018-52-7

OSHA PEL: NOT ESTABLISHED

ACGIH TLV: NOT ESTABLISHED

Other Recommended Limit: NONE RECOMMENDED

Proprietary: NO

Ingredient: **TETRASODIUM ETHYLENE DIAMINE TETRAACETATE**

Ingredient Sequence Number: 02

Percent: **3 %**

NIOSH (RTECS) Number: AH5075000

CAS Number: 64-02-8

OSHA PEL: NOT ESTABLISHED

ACGIH TLV: NOT ESTABLISHED

Other Recommended Limit: NONE RECOMMENDED

- ◆ **Chemical identity**
- ◆ **Ingredient %**
- ◆ **Established exposure limits** (*NIOSH, OSHA, ACGIH*)



Physical Data

Physical/Chemical Characteristics

Appearance And Odor: **WATER CLEAR LIQUID, MILD ALCOHOL ODOR**

Boiling Point: 212F,100C

Melting Point: 32.0F,0.0C

Vapor Pressure (MM Hg/70 F): < 1

Vapor Density (Air=1): > 1

Specific Gravity: 1.0182

Decomposition Temperature: UNKNOWN

Evaporation Rate And Ref: 1CC/60HRS

Solubility In Water: COMPLETE

Percent Volatiles By Volume: 96.5 %

pH: 9.5-10

Corrosion Rate (IPY): UNKNOWN

- ◆ **form, color, smell**
- ◆ **vapor pressure**
- ◆ **vapor density**
- ◆ **solubility in water**



Fire & Explosion Data



Fire and Explosion Hazard Data

Flash Point: >200F,>93C

Flash Point Method: TCC

Lower Explosive Limit: NOT GIVEN

Upper Explosive Limit: NOT GIVEN

Extinguishing Media: **WATER FOG, DRY CHEMICAL, CARBON DIOXIDE, FOAM**

Special Fire Fighting Proc: FIRE FIGHTERS SHOULD USE NIOSH APPROVED SCBA & FULL PROTECTIVE EQUIPMENT WHEN FIGHTING CHEMICAL FIRE.

Unusual Fire And Expl Hazrds: NONE SPECIFIED BY MANUFACTURER.

- ◆ **Flash Point**
- ◆ **LEL or UEL**
- ◆ **Extinguisher**



Reactivity Data

Reactivity Data

Stability: YES

Cond To Avoid (Stability): EXTREME TEMPERATURES

Materials To Avoid: NONE SPECIFIED BY MANUFACTURER.

Hazardous Decomp Products: CARBON MONOXIDE, CARBON DIOXIDE, UNIDENTIFIED ORGANIC COMPOUNDS.

Hazardous Poly Occur: NO

Conditions To Avoid (Poly): NONE. WILL NOT OCCUR.

- ◆ **stability**
- ◆ **chemicals to avoid**



Health Hazard Data

Health Hazard Data

LD50-LC50 Mixture: NOT GIVEN FOR PRODUCT AS A WHOLE

Route Of Entry - Inhalation: YES

Route Of Entry - Skin: YES

Route Of Entry - Ingestion: NO

Health Haz Acute And Chronic: **HEADACHES, DIZZINESS, NAUSEA AND VOMITING AND DIARRHEA MAY OCCUR DUE TO PROLONGED INHALATION, PROLONGED SKIN ABSORPTION OR FROM SWALLOWING. CONTACT WITH EYE MAY CAUSE EYE IRRITATION AND CORNEAL INJURY. MAY CAUSE MUCOUS MEMBRANE IRRITATION. MAY CAUSE SKIN IRRITATION.**

Carcinogenicity - NTP: NO

Carcinogenicity - IARC: NO

Carcinogenicity - OSHA: NO

Explanation Carcinogenicity: THIS COMPOUND CONTAINS NO INGREDIENTS AT CONCENTRATIONS OF 0.1% OR GREATER THAT ARE CARCINOGENS OR SUSPECT CARCINOGENS.

Signs/Symptoms Of Overexp: EYE IRRITATION, SKIN IRRITATION, DERMATITIS, UPPER RESPIRATORY TRACT IRRITATION, NAUSEA, VOMITING, DIARRHEA, HEADACHES, CORNEAL INJURY

Med Cond Aggravated By Exp: PRE-EXISTING SKIN DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

Emergency/First Aid Proc: EYES: FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION. SKIN: REMOVE CONTAMINATED CLOTHING. WASH WITH SOAP AND WATER. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION. INHALATION: REMOVE TO FRESH AIR. RESTORE BREATHING. GET MEDICAL ATTENTION. INGESTION: DRINK 1-2 GLASSES OF WATER AND INDUCE VOMITING. GET MEDICAL ATTENTION.

- ◆ routes of entry
- ◆ symptoms
- ◆ first aid



Precautions for Safe Handling & Use



- ◆ storage
- ◆ handling
- ◆ disposal

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: CONTAIN SPILLED MATERIAL AND ABSORB WITH ASUITABLE ABSORBENT. COLLECT FOR DISPOSAL.

Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.

Waste Disposal Method: PREVENT WASTE FROM CONTAMINATING SURROUNDING ENVIRONMENT. DISCARD ANY PRODUCT, RESIDUE, DISPOSAL CONTAINER OR LINER IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS. Precautions-**Handling/Storing:** STORE IN A COOL, DRY PLACE WITH ADEQUATE VENTILATION. KEEP AWAY FROM OPEN FLAMES AND EXTREME TEMPERATURES. KEEP FROM FREEZING.

Other Precautions: AVOID SKIN CONTACT. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE



Control Measures

Control Measures

Respiratory Protection: IF VENTILATION DOES NOT MAINTAIN INHALATION EXPOSURES BELOW PEL (TLV), USE NIOSH/MSHA APPROVED RESPIRATOR AS PER CURRENT 29 CFR 1910.134, INSTRUCTIONS/WARNINGS AND NIOSH RESPIRATOR SELECTION.

Ventilation: LOCAL EXHAUST AND MECHANICAL (GENERAL) VENTILATION TO MAINTAIN EXPOSURE LEVELS.

Protective Gloves: RUBBER OR BUTYL

Eye Protection: SAFETY GLASSES OR GOGGLES

Other Protective Equipment: PROTECTIVE CLOTHING AS REQUIRED TO AVOID SKIN CONTACT. AN EMERGENCY EYE WASH STATION AND SHOWER SHOULD BE AVAILABLE.

Work Hygienic Practices: WASH WITH SOAP AND WATER AFTER HANDLING PRODUCT AND BEFORE EATING DRINKING OR SMOKING.

Suppl. Safety & Health Data: NONE SPECIFIED BY MANUFACTURER.

- ◆ engineering controls
- ◆ PPE
- ◆ hygiene practice



OTHER



- ◆ **Transportation Data**
- ◆ **Disposal Data**
- ◆ **Label Data**

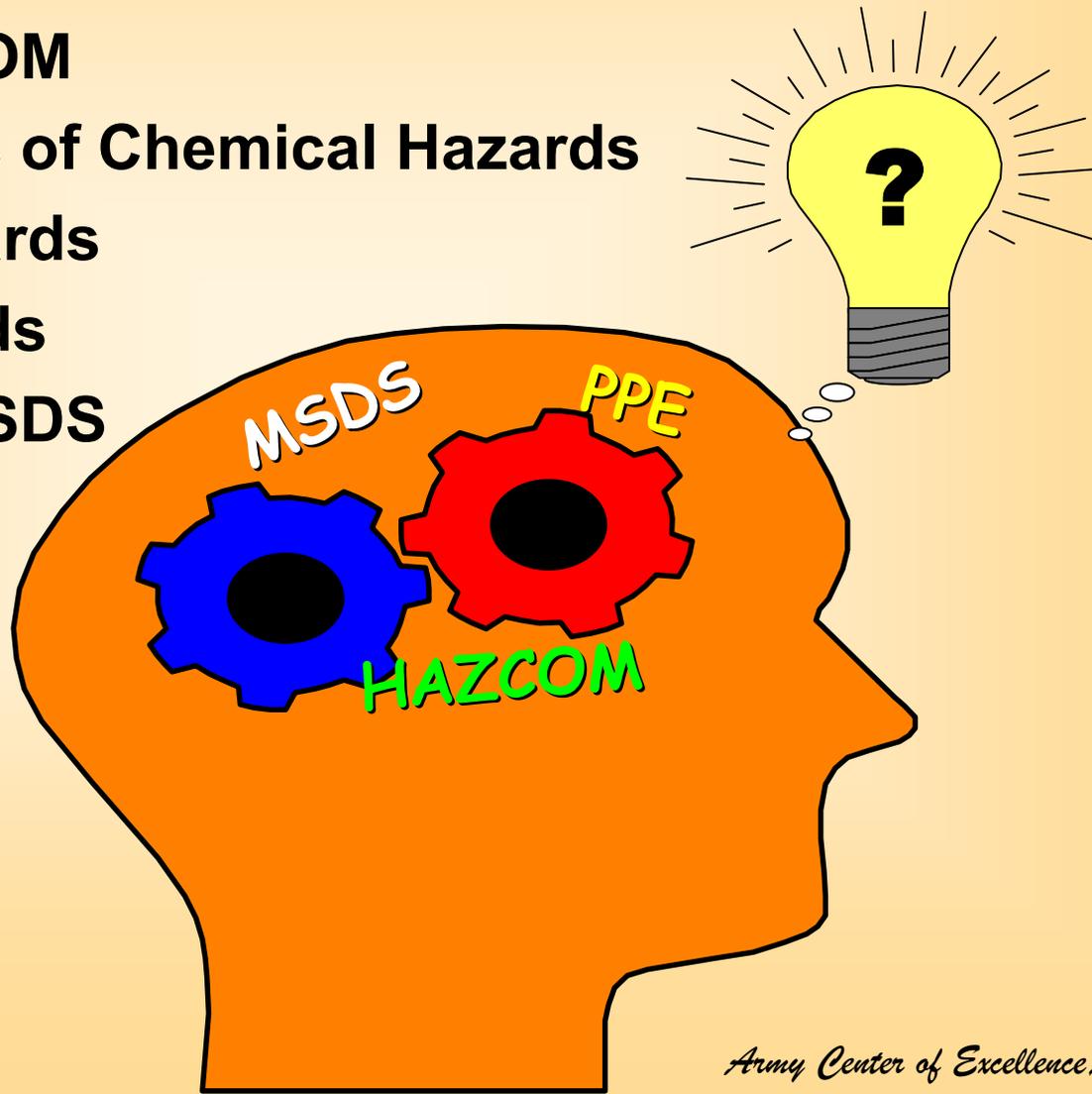
MSDS on-line

<http://siri.uvm.edu/msds>



SUMMARY

- ◆ Defined HAZCOM
- ◆ Characteristics of Chemical Hazards
- ◆ Degree of Hazards
- ◆ Control Methods
- ◆ Reading the MSDS





Hazardous Communication (HAZCOM)

CPT Caroline Kalinowski
ACES Safety Officer

