

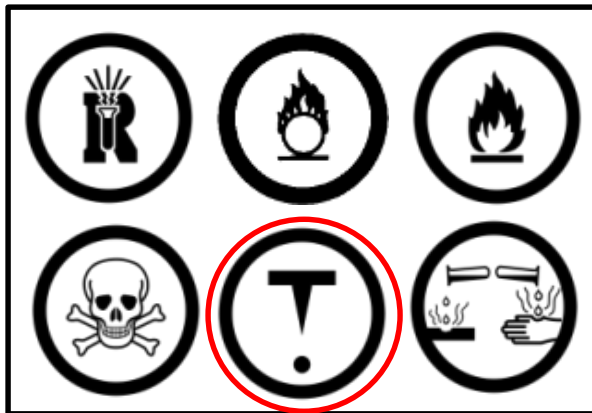
ISEE Conference 7-8 November 2016

Overview of session

- Introduction to hazardous chemicals and GHS
- GHS and WHS law
- What's new
- What's stayed the same
- What's changed
- Implication for explosives and mining
- GHS FAQs and tools

Why was the GHS developed?

What do all these symbols mean?



WHMIS (Canada)



European Union



ADG Code

What is GHS?

Globally Harmonized System of Classification and Labelling of Chemicals



UN working Party manages the process and purple book

Hazardous chemicals and GHS

- Globally harmonised system of classifying and labelling of chemicals (GHS)
 - Comprehensive tool that harmonises chemical classification and hazard communication
- Harmonised criteria for classification – **physical (H2), health (H3) and environmental (H4)**
 - Applies criteria to classify chemicals based on **intrinsic** hazards
 - Covers single substances, solutions and mixtures
- Communicates hazard information on labelling and safety data sheets (SDS)
 - Hazard classes
 - Symbols, signal words and hazard and precautionary phrases
 - Standardised SDS format

Hazardous chemicals

Hazardous Materials (**OLD**)

Hazardous Substances

Dangerous Goods

Irritant, toxic etc.

E.g. Class 1-9

Hazardous Chemicals (**NEW**)

Thousands of different chemicals that present a health and/or safety hazard

Introduction of hazardous chemicals

- Work Health and Safety Act and Regulation 2011 changed the system for classifying chemical hazards



WHS Regulations
HEALTH RELATED
& NO PICTOGRAMS

ADG Code



Who regulates GHS?

- In Queensland*:
 - Workplaces are regulated by WHS Qld
 - Mine sites are regulated by Mines Inspectorate, DNRM

*Check in your jurisdiction regarding mine site and workplace regulation

- Plan is for mines in Queensland to require GHS by 1 January 2017 to align with WHS timeframe
- In Western Australia, GHS will not be implemented until 2018
- Victoria have not yet agreed to adopt GHS, however most items imported/exported to and from Victoria either within Australia or overseas will be required to have GHS

Process for manufacturers/importers

(primary duty-holders)

Classify according to GHS criteria



Establish the hazard class and categories



1. Generate GHS-based SDS
Include dangerous goods class in Section 14 where applicable

2. Generate GHS based label for container




Provide to end-users for hazard communication

Flammable Liquids	Category 1		Corrosive to metals	Category 1	
	Category 2			Category 1	
	Category 3	Category 2			
	Category 4	No Pictogram			
Flammable Solids	Category 1		Acute Toxicity (Oral, Dermal or Inhalation)	Category 1	
	Category 2			Category 2	
Specific target organ toxicity (single exposure)	Category 1			Category 1	
	Category 2			Category 2	
	Category 3	Category 3			

This process dictates the signal word, hazard statements, precautionary statements & pictograms

What's changed – safety data sheets

- Material safety data sheets replaced by safety data sheets
- Sixteen header format is mandatory
- Hazard information to be communicated is prescribed in the 3rd edition GHS

Flammable Liquids	Category 1	 GHS02	Danger	H224	Extremely flammable liquid and vapour
	Category 2			H225	Highly flammable liquid and vapour
	Category 3		Warning	H226	Flammable liquid and vapour
	Category 4	No Pictogram	Warning	H227	Combustible liquid

New pictogram – exclamation mark



Harmful/irritants

- irritant (skin, eye and respiratory)
- skin sensitiser
- acute toxicity (harmful)
- narcotic effects

New pictogram - health hazard












Severe health hazards

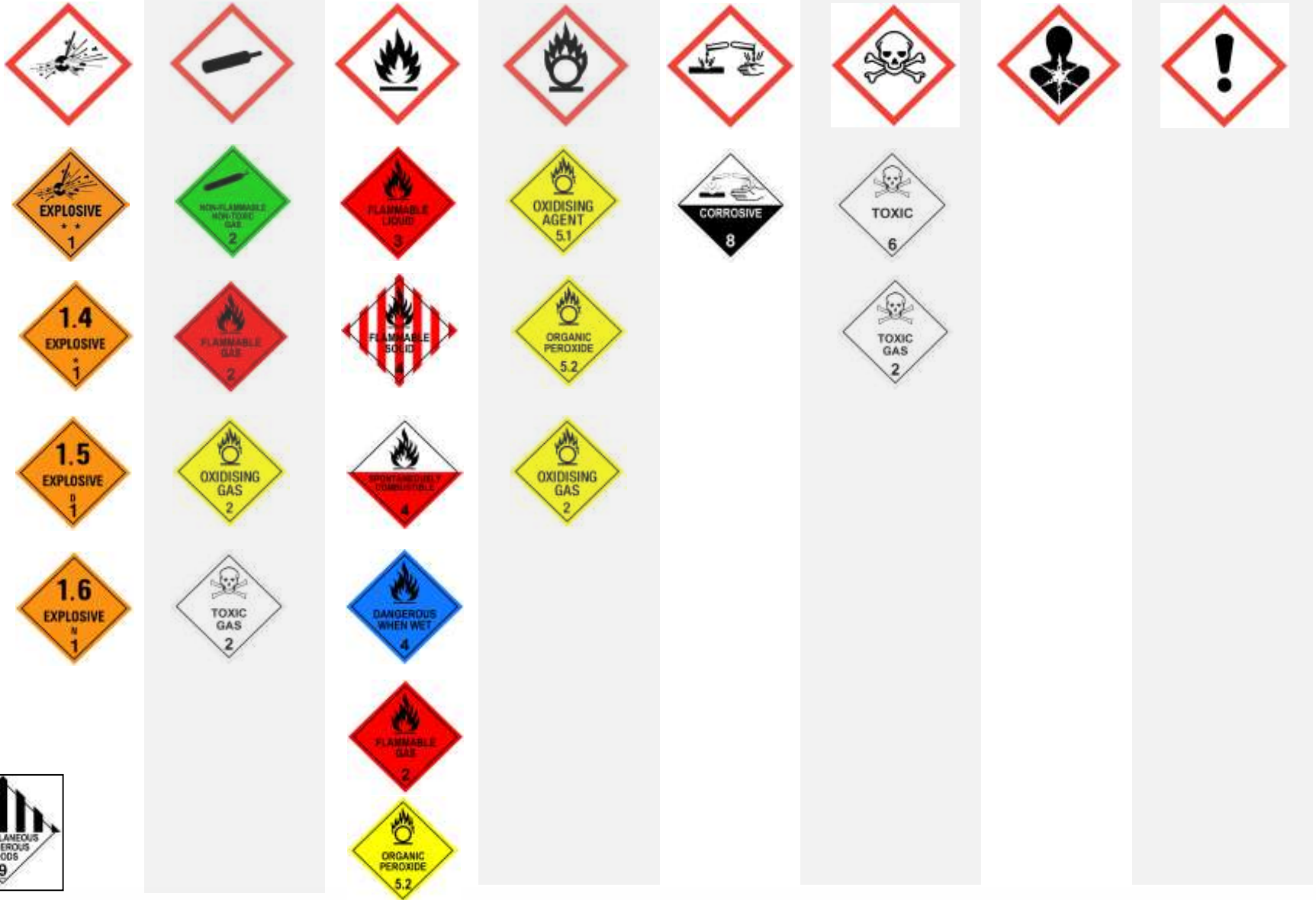
- carcinogen
- mutagen
- reproductive toxicity
- respiratory sensitiser
- target organ toxicity (non-lethal)
- aspiration hazard

What's new – Pictograms

The GHS uses 9 pictograms to convey the hazards of chemicals

	<i>Exploding bomb</i> Explosives		<i>Flame</i> Flammables		<i>Flame over circle</i> Oxidisers	
	<i>Gas cylinder</i> Gases under pressure		<i>Corrosion</i> Corrosives		<i>Skull and crossbones</i> Acute toxicity	
	<i>Environment</i> Environmental hazard			<i>Exclamation mark</i> Harmful/irritant Harmful to ozone layer		<i>Health hazard</i> Severe health hazards

What hasn't changed - dangerous goods diamonds



What's new

Aromasol

Contains:
Aromatic hydrocarbons 95 %v/v
Toxicole 5 %v/v

Refer to Safety Data Sheet before use.

2.5 L

DANGER

Highly flammable liquid and vapour
Toxic if swallowed
Causes skin irritation
May cause cancer
May be fatal if swallowed and enters airways

IF ON SKIN (or hair): Take off contaminated clothing and wash before re-use.
Rinse skin using plenty of soap and water.
IF exposed or concerned : Get medical advice/attention.
IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
Do NOT induce vomiting
Store locked up in a well-ventilated place.
Keep cool.
Dispose of contents/container in accordance with local regulations.

In case of fire: Use powder for extinction.
Keep away from sparks and open flames – No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Take precautionary measures against static discharge.
Wear protective gloves and eye and face protection.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.

Madeup Chemical Company Pty Ltd, 999 Chemical Street, Chemical Town, My State 1234; Tel: 1300 000 000
www.madeup-chemicalcompany.com.au

Hazard pictograms



Signal word

Hazard statements

Precautionary statements

Safety data sheet

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name COPPER SMELTER REVERTS
Synonym(s) COPPER REVERT FINES • COPPER REVERT MIDS • COPPER REVERTS • MIM COPPER SMELTER REVERTS • MOUNT ISA MINES COPPER SMELTER REVERTS

1.2 Uses and uses advised against

Use(s) FEED MATERIAL / COOLANT FOR COPPER SMELTING PROCESS

1.3 Details of the supplier of the product

Supplier name MOUNT ISA MINES LIMITED - A GLENCORE COMPANY
Address Private Mail Bag 1, Mount Isa, QLD, 4825, AUSTRALIA
Telephone +61 7 4744 2011
Fax +61 7 4744 3731
Website www.mountisamines.com.au

1.4 Emergency telephone number(s)

Emergency +61 (07) 4744 2222

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS
GHS classification(s) Specific Target Organ Systemic Toxicity (Repeated Exposure): Category 2

Hazard class and category

2.2 Label elements

Signal word **WARNING**

Signal word

Pictogram(s)



Hazard statement(s)

H373 May cause damage to organs through prolonged or repeated exposure.

Hazard statements

Prevention statement(s)

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

Response statement(s)

P314 Get medical advice/attention if you feel unwell.

Precautionary statements

Storage statement(s)

None allocated.

Disposal statement(s)

P501 Dispose of contents/container in accordance with relevant regulations.

2.3 Other hazards

No information provided.

GHS label suitable for transport

DG Class Labels

Aromasol

UN2758
Contains:
Aromatic hydrocarbons 95 %v/v
Toxicole 5 %v/v

Refer to Safety Data Sheet before use.

2.5 L


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What does this mean for Qld mining industry?

- Manufacture a hazardous chemical for supply to workplaces (outside MQSHA and CMSHA)
 - Hold duties of a manufacturer under WHS legislation
 - Must meet new GHS requirements
- Importer
 - Receive GHS labelled products and updated SDS
 - Do imports meet Australian GHS requirements?
- End user
 - Receive GHS labelled products and updated SDS

Examples for mining



Labelling on

Tools to assist in transition to GHS

- Staff training resources
 - Free GHS awareness video (13 minutes) – Comcare
 - GHS information sheet and poster - Safe Work Australia
 - Understanding SDS for hazardous chemicals fact sheet – Safe Work Australia
 - Understanding hazardous chemical labels fact sheet – Safe Work Australia
 - PowerPoint and other tools – Safe Work Australia
- Classification assistance / reference
 - GHS hazardous chemical information list (HSIS conversion) – Safe Work Australia
 - GHS converter (European) – link from Safe Work Australia
 - ECHA classification and labelling inventory – link from Safe Work Australia
- Interpretation of intent
 - FAQs – Safe Work Australia
 - GHS information – WHSQ

Further information

- Queensland Codes of Practice
 - Labelling of workplace hazardous chemicals
 - Preparation of safety data sheets for hazardous chemicals

- WHSQ hazardous chemical

<https://www.worksafe.qld.gov.au/injury-prevention-safety/hazardous-chemicals/globally-harmonised-system>

- Safework Australia

<http://www.safeworkaustralia.gov.au/sites/swa/whs-information/hazardous-chemicals/pages/hazardous-chemicals-other-substances>

- Comcare web site

https://www.comcare.gov.au/preventing/hazards/chemical_hazards/globally_harmonised_system_of_classification_and_labelling_of_chemicals_ghs

GHS labelling on explosives

FARA

Explosivt. Fara för massexlosion.

Får inte utsättas för värme/gnistor/öppen låga/heta ytor. – Rökning förbjuden.

Jorda/potential förbind behållare och mottagarutrustning.

Får inte utsättas för gnidning/stötar/friktion.

Vid brand: Utrym området.

Försök INTE bekämpa branden när den når explosiva varor.

Innehållet/behållaren lämnas till godkänd destruktionsanläggning.



DANGER

Explosive; mass explosion hazard.

Keep away from heat / sparks / open flames / hot surfaces. – No smoking.

Ground / bond container and receiving equipment.

Do not subject to grinding / shock / friction.

In case of fire: Evacuate area DO NOT fight fire when it reaches explosives.

Dispose of contents/container in accordance with local/regional/national/international regulations.

GEFAHR

Explosiv, Gefahr der Massenexplosion.

Von Hitze/Funken/offener Flamme/heißen Oberflächen fernhalten. Nicht rauchen.

Behälter und zu befüllende Anlage erden. Nicht schleifen/stoßen/.../reiben.

Bei Brand: Umgebung räumen.

KEINE Brandbekämpfung, wenn das Feuer explosive Stoffe/Gemische/Erzeugnisse erreicht.

Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.

GHS labelling on explosives

DANGER RISK OF EXPLOSION FROM IMPACT, FRICTION OR OPEN FLAME.
KEEP AWAY FROM ANY SOURCE OF HEAT. NO SMOKING.

H201: Explosive; mass explosion hazard.

P 210: Keep away from heat / sparks / open flames / hot surfaces.- No smoking.

P 250: Do not subject to grinding / shock / friction. P 370 + P 380: In case of fire: Evacuate area. P 372: Explosion risk in case of fire. P 373: DO NOT fight fire when fire reaches explosives. P 401 - Store in accordance with local/regional/national/international regulation as applicable. P 501 - Dispose of contents/container in accordance with local/regional/national/international regulation as applicable.

Questions

