

Guidance: Hazardous Products Regulations (WHMIS 2015) for Grain Handling, Feed, Ingredient & Processing Facilities

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This guidance document was prepared to assist Canadian grain handling, feed, ingredient & processing facilities with developing a hazard communication program in line with updated WHMIS 2015 regulations. This guide has been adapted with permission from the American Feed Industry Association, Corn Refiners Association, National Grain and Feed Association and North American Millers Association April 2015 publication, "Guidance: Hazard Communication Program at Grain Handling, Feed, Ingredient & Processing Facilities". Where possible, similar section headings have been maintained to facilitate comparisons.

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Section 1: Introduction

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HAZARDOUS PRODUCTS REGULATIONS GUIDANCE DOCUMENT FOR GRAIN HANDLING, FEED, INGREDIENT AND PROCESSING FACILITIES

This document presents a summary of changes to the regulations and requirements for the classification and labelling of *Hazardous Products* in Canada. This document provides an introduction of the Federal Acts and Regulations. Companies and Individuals are solely responsible for ensuring that they understand and comply with the regulations as it relates to their specific operations.

Sample documents found in the appendices provide templates that may be used to update a site-specific hazard communication program.

This document is based on the Hazardous Products Act (*HPA*), Hazardous Products Regulations (*HPR*), Hazardous Materials Information Review Act (*HMIRA*) and Hazardous Materials Information Review Regulations (*HMIRR*).

WHMIS is the workplace hazard communication program. *Hazardous Product* labelling and Safety Data Sheet (*SDS*) regulations are administered federally by the Workplace Hazardous Materials Bureau (*WHMB*) of Health Canada.

Regulations and requirements for the training, control, storage, handling, use and disposal of *Hazardous Products* are enacted and enforced by the occupational health and safety agency for each Province and Territory. See Appendix G for a current list and link for each jurisdiction.

Together the *WHMB* and Provincial/Territorial agencies are the Canadian equivalent to the US Federal Occupational Safety and Health Administration (*OSHA*).

BACKGROUND

In February 2015, the Ministry of Health enacted the Hazardous Products Regulations (aka *WHMIS 2015*) and repealed the Controlled Products Regulations (*CPR* or *WHMIS 1988*).

The purpose and intent of the new regulation is to align the classification and labelling of *Hazardous Products* with the US *OSHA* Hazard Communication System (*HCS 2012*) and the Globally Harmonized System for the Classification and Labelling of Chemicals (*GHS*).

The primary changes to the previous *WHMIS* classification and labelling are new *WHMIS* classes and subclasses, symbols, *SDS* and label format and content.

The *HPR* requires chemical manufacturers, importers, distributors and employers to prepare, maintain and supply labels and Safety Data Sheets for Hazardous Products that they manufacture, import or distribute.

The Canada Grain Act and the Feeds Act are not excluded from the Hazardous Products Act under Section 12 and Schedule 1 of the Hazardous Products Act and therefore grains

and Feeds are subject to WHMIS Label and Safety Data Sheet requirements. Combined with the new hazard class "Combustible Dusts", grains and Feeds may require new WHMIS 2015 labelling and Safety Data Sheets.

The Food and Drugs Act is excluded from Hazardous Products Act under Section 12 and Schedule 1 and as such Foods are still exempt from WHMIS labelling and SDS requirements.

The Food and Drugs Act defines food as *"includes any article manufactured, sold or represented for use as food or drink for human beings, chewing gum, and any ingredient that may be mixed with food for any purpose whatever"*.

SUMMARY OF WHMIS 2015 STANDARD FOR LABELLING

The Hazardous Products Act requires manufacturers and importers to evaluate if the products are classified in any of the Hazard Classes defined in Schedule 2 of the Hazardous Products Act and if so prepare, maintain and provide both labels and Safety Data Sheets for those hazardous products.

The Hazardous Products Regulations (WHMIS 2015) define the criteria for classifying Physical and Health Hazards and the format and content of labels and Safety Data Sheets.

The Hazardous Products Regulations (WHMIS 2015) replace the Controlled Products Regulations (CPR or WHMIS 1988) which previously defined the criteria for classifying Physical and Health Hazards and the format and content of labels and Material Safety Data Sheets (MSDS).












Major Changes to the WHMIS












- **Hazard classification:** WHMIS 2015 introduces seven new hazard classes: Chemicals Under Pressure, Simple Asphyxiants, Combustible Dusts, Physical Hazards Not Otherwise Classified (PHNOC), Specific Target Organ Toxicity — Single Exposure, Aspiration Hazard, and Health Hazards Not Otherwise Classified (HHNOC).

WHMIS 2015 also expands hazard class criteria & ranges for Flammable Gases, Flammable Liquids, Organic Peroxides, Acute Toxicity, Irritants and Sensitizers.

- **Labels:** WHMIS 2015 introduces new and different symbols, mandatory signal words, hazard statements, and precautionary language for each hazard class. The requirement for the WHMIS hatched border is removed. The use of a Canadian business address for the *Initial Supplier* on the label that matches the Canadian business address on the SDS is required.

A comparison of the new WHMIS 2015 versus WHMIS 1988 hazard classes & symbols is presented on pages 7 & 8.

WHMIS 1988	WHMIS 1988 Class Name	WHMIS 2015 Class Name	WHMIS 2015
Class A 	Compressed gas.	Gases Under Pressure — Compressed Gas Gases Under Pressure — Liquefied Gas Gases Under Pressure — Refrigerated Liquefied Gas Gases Under Pressure — Dissolved Gas	
Class B 	Division 1) Flammable gas.	Flammable gas — Categories 1A, 1B, 2	
	Division 2) Flammable liquid. Division 3) Combustible liquid	Flammable Liquids — Categories 1, 2, 3, 4	
	Division 4) Flammable solid	Flammable Solids — Categories 1, 2 Pyrophoric Solids — Category 1	
	Division 5) Flammable Aerosol	Aerosols — Categories 1, 2, 3	
	Division 6) Reactive Flammable Materials	Pyrophoric Liquids — Category 1 Pyrophoric Solids — Category 1 Self-Heating Substances and Mixtures — Categories 1, 2 Substances and Mixtures Which, in Contact with Water, Emit Flammable Gases — Categories 1, 2, 3	
Class C 	Oxidizing material.	Oxidizing Gases — Category 1 Oxidizing Liquids — Categories 1, 2, 3 Oxidizing Solids — Categories 1, 2, 3 Organic Peroxides — Type A	
		Organic Peroxides — Type B	
		Organic Peroxides — Type C Organic Peroxides — Type D Organic Peroxides — Type E Organic Peroxides — Type F	
Class D1A or D1B 	Division 1A) Very toxic material.	Acute Toxicity — Category 1	
	Division 1B) Toxic material.	Acute Toxicity — Categories 2, 3	
		Acute Toxicity — Category 4	

WHMIS 1988	WHMIS 1988 Class Name	WHMIS 2015 Class Name	WHMIS 2015 Symbol
Class D2A 	Division 2A – Very toxic Material Chronic Toxic Effects - May cause chronic toxic effects.	Specific Target Organ Toxicity — Repeated Exposure — Category 1	
	Contains a potential teratogen. Contains a potential carcinogen. Contains a potential reproductive toxin. Contains a potential respiratory tract sensitizer Contains a potential mutagen	Carcinogenicity — Categories 1, 1A, 1B, 2 Reproductive Toxicity — Categories 1, 1A, 1B, 2 Respiratory Sensitizer — Categories 1, 1A, 1B Germ Cell Mutagenicity — Categories 1A, 1B Specific Target Organ Toxicity – Single Exposure – Categories 1, 2 Specific Target Organ Toxicity – Repeated Exposure – Categories 1, 2 Aspiration Hazard – Category 1	
D2B 	Division 2B – Toxic Material Chronic Toxic Effects - May cause chronic toxic effects Eye and skin irritant. Contains a potential skin sensitizer.	Specific Target Organ Toxicity — Repeated Exposure — Category 2 Skin Irritation — Category 2 Eye Irritation — Categories 2A, 2B Skin Sensitizer — Categories 1, 1A, 1B	
	Contains a potential mutagen.	Germ Cell Mutagenicity — Category 2	
Class E 	Corrosive material	Corrosive to Metals — Category 1 Skin Corrosion — Categories 1, 1A, 1B, 1C Serious Eye Damage — Category 1	
Class F 	Dangerously reactive material.	Self-Reactive Substances & Mixtures Type A Organic Peroxides – Type A	
		Self-Reactive Substances & Mixtures Type B Organic Peroxides – Type B	
		Self-Reactive Substances & Mixtures Type C Self-Reactive Substances & Mixtures Type D Self-Reactive Substances & Mixtures Type E	
		Type G	No symbol required

There is no symbol required for the hazard class Combustible Dusts.

- **Safety Data Sheets:** Now called a SDS (Safety Data Sheet) instead of a MSDS (Material Safety Data Sheet). Uses a new 16 section format with mandatory headings and sub-headings for each section. Automatic 3-year expiry of the SDS has been removed. The Ingredient Disclosure List (IDL) from the CPR has been repealed. Defined concentration ranges from the CPR have been removed. Requires the use of a Canadian business address for the *Initial Supplier* on the SDS that matches the Canadian business address on the label.

Variances between WHMIS 2015 and US OSHA HCS 2012:

While the intent of the HPR is to align with the United States HCS 2012 there are some subtle and crucial differences between the regulations that affect the label and SDS compliance with the *Hazardous Products Regulations* including;

- Label and SDS must be provided in both English & French.
- A definition of and criteria for classification of the physical hazard "Combustible Dusts".
- The HPR incorporates by reference the hazard & precautionary statements of GHS Revisions 7 & 8, whereas HCS 2012 has embedded the hazard & precautionary statements in an Appendix C which is based on GHS Revision 3. This can present a challenge to producing a single harmonized label for Canada and the USA.

HPR Section 3(5), however, has label instructions for certain Hazard Categories specifically intended to align with the HCS 2012 Appendix C requirements.

- In Canada, a *Claim for Exemption* (trade secret) to withhold chemical names, CAS# and/or concentration from a SDS requires pre-market approval and registration with Health Canada. Under HCS 2012 a trade secret claim may be made without prior review and approval by OSHA by simply adding a statement to Section 3 of the SDS that the specific chemical identity and/or exact percentage (concentration) of composition has been withheld.
- Concentrations in Section 3 of a SDS must include the units (w/w%, v/v%, w/v%).
- Substances classed as Health Hazards Not Otherwise Classified (HHNOC) must be disclosed in Section 3 of the SDS.
- The HPR Schedule 1, Item 11 does not require disclosure of chemicals considered to be carcinogens by IARC, NTP & OSHA in Section 11 of the SDS as is required by HCS 2012, Appendix E, Table D.1, Item 11(e).
- Category 2 carcinogens between 0.1-1 % must be disclosed on labels unless the small container exemption applies.
- Required label elements possibly include symbols for Physical Hazards Not Otherwise Classified (PHNOC) and Health Hazards Not Otherwise Classified (HHNOC).
- Canada has a hazard class for Biohazardous Infectious Materials. This classification is preserved from the previous Controlled Products Regulations for a class D3 material.

- Supplemental labelling is required for acute toxicants that, upon contact with water, releases a gaseous substance that has an LC50 in a range that makes it a Category 1,2,3 or 4 Acute Toxicity–Inhalation. This is preserved from the previous Controlled Products Regulations for a Class F material.

WHMIS 2015 training compliance deadlines

The requirement to inform and train employees of the handling, storage and use of chemicals in the workplace, including labelling and Safety Data Sheets is regulated by the Canada Labour Code for Federal jurisdictions and under the Provincial and Territorial Occupational Safety and Health (OSH) legislation and regulations.

Global implementation: GHS as a classification and labelling system has been adopted by many countries around the world. It is a model regulation and has been incorporated into existing regulations of different jurisdictions (i.e. WHMIS 2015 in Canada, HCS 2012 in USA and CLP in EU). Variances include implementation dates, GHS revisions adopted, GHS classes excluded or country-specific additions.

Suppliers will need to review destination country regulations to ensure that products are correctly classified and labelled.

An initiative was launched by the International Feed Industry Federation (IFIF) to support a globally harmonized approach for GHS implementation for feed ingredients and premixes. ANAC and representatives from other countries (including the US feed industry) will be participating on the working group.

Selected Global GHS implementation Timelines

Country/Region	Basis of GHS Revision	Date Implemented
Australia	3rd	January 1, 2017
Brazil	3rd	June 1, 2015
Canada	5th	June 1, 2017
China	4th	May 1, 2011
EU	5th	May 1, 2015
Japan	4th	January 1, 2017
Korea	4th	July 1, 2013
Mexico	5th	October 9, 2018
New Zealand	updating to 5th	July 1, 2006
Russia	Proposed 4 th	July 1, 2021
Taiwan	4th	January 1, 2016
USA	3rd	June 1, 2015

WHMIS 2015 Safety Data Sheets: The HPR requires manufacturers and importers and in some cases employers (initial suppliers) to prepare, maintain and provide a Safety Data Sheet (SDS) for hazardous products.

The HPR introduces a new 16 section format SDS to replace the 9 section MSDS format required under the old Controlled Products Regulations.

All Section numbers, Section headings and subheadings are mandatory and must be included verbatim on the SDS. This content is optional for sections 12 - Ecological Information, 13 – Disposal Considerations, 14 – Transportation Information and 15 – Regulatory Information. If any of the information for the subheadings in Sections 4 to 15 are not available or not applicable, an indication to that effect must be clearly stated in lieu of the required specific information element.

Section 1: **Identification** includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.

Section 2: **Hazard(s) identification** includes all hazards regarding the chemical; required label elements.

Section 3: **Composition/information on ingredients** includes information on chemical ingredients; trade secret claims.

Section 4: **First-aid measures** includes important symptoms/effects, acute, delayed; required treatment.

Section 5: **Fire-fighting measures** lists suitable extinguishing techniques, equipment; chemical hazards from fire.

Section 6: **Accidental release measures** lists emergency procedures; protective equipment; proper methods of containment and cleanup.

Section 7: **Handling and storage** lists precautions for safe handling and storage, including incompatibilities.

Section 8: **Exposure controls/personal protection** Occupational Exposure Limits (PEL, TLV); and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the SDS where available as well as appropriate engineering controls; personal protective equipment (PPE).

Section 9: **Physical and chemical properties** lists the chemical's characteristics.

Section 10: **Stability and reactivity** lists chemical stability and possibility of hazardous reactions.

Section 11: **Toxicological information** includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.

Section 12: **Ecological information.**

Section 13: **Disposal considerations.**

Section 14: **Transport information.**

Section 15: **Regulatory information.**

Section 16: **Other information**, includes the date of preparation or last revision.

Section 2: Labelling

FEED AND FOOD LABELLING AND EXEMPTIONS

Food labelling

Foods, defined under the Food and Drug Act as “includes any article manufactured, sold or represented for use as food or drink for human beings, chewing gum, and any ingredient that may be mixed with food for any purpose whatever”, are exempt from the Hazardous Products Regulations (WHMIS 2015) labelling and Safety Data Sheet requirements.

Feed, Grain and grain by-products for feed labelling

Feeds as defined under the Feeds Act are not exempt from the Hazardous Products Regulations and must be labelled in accordance with both Section 26 of the Feeds Regulations and if applicable Part 3 of the Hazardous Products Regulations.

Cautionary statements required by both the Feeds Act and precautionary statements (Prevention/Response/Storage/Disposal) required by WHMIS 2015 should be grouped together, keeping in mind that a cross-hatch border is no longer required by WHMIS.

Label information required under the Feeds Act only (including guaranteed analysis, registration numbers, etc.) should be located separately from label elements required by WHMIS 2015.

The CFIA “RG-1 Regulatory Guidance: Feed Registration Procedures & Labelling Standards Chapter 4.13” advises that medicated feeds are not WHMIS controlled and thus do not require WHMIS labelling. However, a SDS must be maintained and provided upon request. A link to RG-1 may be found in Appendix G.

Whole grain shipments

Bulk shipments of a hazardous product are exempt from labelling required of the Hazardous Products Regulations under Section 5.5(2). A bulk shipment is defined in Section 5.5(1) as

“bulk shipment means a shipment of a hazardous product that is contained in any of the following, without intermediate containment or intermediate packaging:

- (a) a vessel that has a water capacity equal to or greater than 450 l;*
- (b) a freight container, road vehicle, railway vehicle or portable tank;*
- (c) the hold of a ship; or*
- (d) a pipeline.”*

Whole grains shipped in bags and sacks would be subject to the labelling Requirements of the Hazardous Products Regulations.

Section 3: Classification

WHMIS 2015 GUIDANCE DOCUMENTS FOR OCCUPATIONAL SAFETY & HEALTH (OSH) OFFICERS

WHMIS is enforced by the provincial/territorial Ministries of Labour and through the Labour Program for federally regulated workplaces. These agencies will enforce WHMIS 2015 requirements.

COMBUSTIBLE DUSTS & LANGUAGE FROM HAZARDOUS PRODUCTS ACT REGULATORY IMPACT AND ANALYSIS STATEMENT (RIAS)

There are 3 key variances between WHMIS 2015 and HCS 2012 related to the classification and labelling of Combustible Dust;

- i) WHMIS 2015 assigns Combustible Dusts to a distinct hazard class with a definition under HPR section 7.17, whereas HCS 2012 simply includes Combustible Dusts within the definition of a "Hazardous chemical".
- ii) As a distinct hazard class, hazardous products classified as Combustible Dusts require precautionary statements (Prevention/Response/Storage/Disposal) on the SDS and label under HPR Section 3(1)(d)(ii). These statements are not defined in the HPR as they are for other hazard classes. It is the responsibility of the Supplier to determine appropriate statements.
- iii) OSH HCS 2012 requires that a manufacturer or importer shipping chemicals that are not in dust form, but under normal conditions of use, are processed in a downstream workplace in such a way that they present a Combustible Dusts hazard; to provide a label to customers for the Combustible Dusts hazard.

WHMIS 2015 does not have a similar requirement. A label for a Combustible Dusts hazard is only required for the product if it is hazardous as supplied. From the February 11, 2015 Gazette Notice for the Hazardous Products Regulations RIAS;

"Notably, the HPR do not regulate products that are shipped in a non-dust form but which, when processed, would present the hazard of Combustible Dusts. However, the HCS 2012 requires such products to be accompanied by a label and SDS. This difference is not an impediment to harmonization because the voluntary provision of a label or SDS for such products in Canada will not be viewed as non-compliant with the requirements.

The HPR are aligned with the HCS 2012 in respect of all of the physical hazard classes, with the exception of Combustible Dusts and PHNOC. While the manner in which these hazards are addressed by the HPR and the HCS 2012 is different, the outcome is similar. The HCS 2012 neither defines nor provides classification criteria in respect of Combustible Dusts. It also does not define a hazard class for physical hazards not otherwise classified, but instead, defines the general term "hazards not otherwise classified." In both cases, the HPR set out a hazard class that includes a definition and classification criteria; this is required since the criminal law framework of Canadian legislation and regulations for workplace hazardous chemicals does not provide the latitude to require the classification of a product without specifying the criteria by which a supplier must determine whether the product is classified. Health Canada will continue to collaborate with OSHA with a view to harmonizing the definition of Combustible Dusts between both jurisdictions."

GRAIN DUST RESPIRATORY HAZARDS

While the Hazardous Products Regulations do not specifically assign dust as an inhalation hazard, Federal, Provincial and Territorial occupational safety and health (OSH) regulations do consider dusts to be a hazardous material or hazardous physical agent and set Occupational Exposure Limits.

Jurisdiction	Dust Type	PEL-TWA 8hr (mg/m ³)	Source Regulation
Canada (Federal workplaces)	Grain dust (oat, wheat, barley)	10	http://www.laws-lois.justice.gc.ca/eng/regulations/SOR-86-304/page-24.html#h-122
Alberta	Grain dust (oat, wheat, barley)	4	https://work.alberta.ca/documents/WHSL-LEG_ohsc_2009.pdf
British Columbia	Grain dust (oat, wheat, barley)	4	https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-guidelines/guidelines-part-05#0836B12CD2A64F2A8BFF2E1A76A0F44
Manitoba	Grain dust (oat, wheat, barley)	4	https://www.gov.mb.ca/labour/safety/pdf/2014_ohs_act_regs.pdf
New Brunswick	Grain dust (oat, wheat, barley)	4	https://www.canlii.org/en/nb/laws/regu/nb-reg-91-191/latest/nb-reg-91-191.html
Newfoundland & Labrador	Grain dust (oat, wheat, barley)	4	http://www.assembly.nl.ca/Legislation/sr/Regulations/rc120005.htm#42
Northwest Territories	Grain dust (oat, wheat, barley)	4	http://www.wscn.nt.ca/sites/default/files/documents/General%20safety%20Regs%20(NU)%20EN_0.pdf
Nova Scotia	Grain dust (oat, wheat, barley)	4	https://novascotia.ca/just/regulations/regs/ohsworkplace.htm#TOC1_2
Nunavut	Grain dust (oat, wheat, barley)	4	https://www.canlii.org/en/nu/laws/regu/nu-reg-003-2016/latest/nu-reg-003-2016.html
Ontario	Grain dust (oat, wheat, barley)	4	https://www.labour.gov.on.ca/english/hs/pubs/oel_table.php
P.E.I.	Grain dust (oat, wheat, barley)	4	https://www.princeedwardisland.ca/sites/default/files/legislation/o1-01g.pdf
Quebec	Grain dust (oat, wheat, barley)	4	http://legisquebec.gouv.qc.ca/en/showdoc/cr/S-2.1.%20r.%2013?langCont=en#sc-nb:1
Saskatchewan	Grain dust (oat, wheat, barley)	4	http://www.ap.gov.sk.ca/documents/English/Regulations/Regulations/O1-1R1.pdf
Yukon	Grain dust (oat, wheat, barley)	not listed	

Under each occupational safety and health (OSH) regulation, if limits are exceeded, special precautions must be taken to reduce employee exposure, including use of dust control equipment, administrative controls or respiratory protection.

HAZARD CLASSIFICATION

The hazard classification approach of WHMIS 2015 is very similar to the one used in WHMIS 1988.

WHMIS 2015 has specific criteria for each health and physical hazard, along with detailed instructions for hazard evaluation and determinations as to whether mixtures of the substance are covered.

WHMIS 2015 has included the general provisions for hazard classification in Part 2 of the *Hazardous Products Regulations* and in Parts 7 and 8 that address the criteria for each physical or health hazard class.

The WHMIS 1988 principle that classification should be based on available data and no testing should be needed for the purposes of classification is retained with WHMIS 2015 and is harmonized with HCS 2012.

MIXTURES

Mixtures are defined under the *Hazardous Products Act* as “a combination of, or a solution that is composed of, two or more ingredients that, when they are combined, do not react with each other, but excludes any such combination or solution that is a substance.”

The WHMIS 2015 criteria for mixtures vary by hazard class. As a result, manufacturers of products such as feed ingredients, premixes and final feed products are obligated to create and distribute an SDS for their product if it is “hazardous” according to WHMIS criteria. The hazards within the product could include Combustible Dusts from grain, as well as respirable dusts from chemicals such as selenium or limestone.

Physical hazards

For physical hazards, such as flammability and/or Combustible Dusts, the supplier is required to consider all available data against the criteria for each physical hazard class to determine the classification of a product, mixture or substance. It is important to note that the classification of a product, mixture or substance in one physical hazard class does not preclude classification of the same product, substance or mixture in other physical hazard classes. For some physical hazards such as Aerosols, Gases Under Pressure, Self-Reactive Substances and Mixtures, and Organic Peroxides, the product as a whole, including its packaging must be evaluated for classification.

If the finished product presents a physical hazard, a SDS for the product is to be developed that includes the information detailed in the *Hazardous Products Regulations* Schedule 1. However, there is a key distinction for what must be disclosed for chemical identity in Section 3 of the SDS with respect to a *Material* or *Substance* versus a *Mixture* or *Product*.

- i) **For a Material or Substance:** Section 3 must include the chemical name; common name and synonyms; CAS registry number and any unique identifiers and the chemical name of the impurities; and stabilizing solvents and stabilizing additives that are known to the supplier, that individually are classified in any category of a health hazard class and that contribute to the classification of the material or substance.

For example, a SDS for Grain could disclose

Whole grains
Grain dust
Foreign organic plant material

- ii) **For a Mixture or Product;** Section 3 must include the chemical name, common name and synonyms, CAS registry number and any unique identifiers and concentration of all ingredients which are classified as **health hazards**.

For a mixture or product, ingredients that are only physical hazards need not be disclosed in Section 3. Thus, a Feed classified as a Combustible Dust may not have any disclosure in Section 3 of the SDS unless the ingredients also present a health hazard under WHMIS 2015.

Health hazards

For health hazards, the supplier is required to consider all available data against the criteria for each health hazard class to determine the classification of a product, mixture or substance. It is important to note that the classification of a product, mixture or substance in one health class does not preclude classification of the same product, substance or mixture in other health hazard classes.

Furthermore, the provisions for classifying mixtures must be applied in the order specified in each Subpart of Part 8. This order is very important because classification using data on the whole mixture may result in a more severe or less severe hazard classification than would result if the bridging principles or methods for estimating hazards based on the ingredients of the mixture were used.

If the finished product presents a health hazard, a SDS for the product is to be developed that includes the information detailed in the Hazardous Products Regulations Schedule 1. Products classified in any health hazard category must always include the chemical name, common name and synonyms, CAS registry number and any unique identifiers, and the concentration of all ingredients which contribute to the health hazards.

Generic SDS

The Hazardous Products Regulations do not specifically address the use of Generic Safety Data Sheets. However, a supplier may use a generic SDS for a series of hazardous products with similar composition provided that;

- i) All products are classed in the same hazard class(es) category AND subcategories.
- ii) All products to which the SDS applies to are included in Section 1 of the SDS.
- iii) If any specific information or data value (i.e. flashpoint, LD₅₀, PEL) differs for one product from the other products in the series, that specific information must be disclosed in the SDS for the specific product.
- iv) If the concentration of ingredient disclosed in section 3 of the SDS is different for one product from the other products in the series, that specific information must be disclosed in the SDS for the specific product.

Section 4: FAQs

FREQUENTLY ASKED QUESTIONS

Combustible Dusts

1. How do the Hazardous Products Regulations (WHMIS 2015) address Combustible Dusts in the grain and feed supply chain?

In HPR Section 7.17 a "Combustible Dust" means a mixture or substance that is in the form of finely divided solid particles that, upon ignition, is liable to catch fire or explode when dispersed in air. The criteria further defines a Combustible Dust as one that,

(a) has been shown to, upon ignition, catch fire or explode when dispersed in air or another oxidizing medium; or

(b) is classified in a category of the hazard class "Flammable Solids" and 5.0% or more of its composition by weight is a flammable solid and has a particle size $\leq 500 \mu\text{m}$.

2. My facility produces pellet and mash feed. Are they considered a combustible dust hazard?

Not if they do not meet the criteria for a combustible dust. Reference 7.17 of the HPR with the definition. If these products do not meet the hazard criteria of any hazard class under the HPR, no WHMIS label or SDS is required.

Safety Data Sheet Requirements

3. Who makes the determination if the use or sale of a company's product requires a Safety Data Sheet (SDS) for downstream customers?

The Initial Supplier of a product, defined as the manufacturer in Canada or the importer who operates in Canada is responsible for determining whether their products are hazardous products, including but not limited to Combustible Dusts. If a determination is made that the product is a hazardous product the Initial Supplier must prepare bilingual labels and SDSs and provide those to downstream customers.

4. Who develops the initial Safety Data Sheet for Combustible Dusts in the grain supply chain?

The first point of compliance for developing a SDS for Combustible Dusts is at the commercial storage or grain processing operation that first receives the product, and not the farm handling the grain. The SDS is then sent to the customer. The grain storage and processing operations, along with customers purchasing the product, are also subject to Provincial/Territorial OHS Regulations for employers, which include designing and implementing an effective protective program for their employees.

5. How often do I need to provide a SDS to a downstream user or customer?

A SDS only needs to be provided with an initial shipment of a product to a downstream customer. Where significant new data arises that will change the classification of a product, a new SDS must be prepared within 90 days of receiving the new information. The label must be updated within 180 days. A supplier may provide a downstream customer the current SDS and label along with, in writing, the new data while the updated SDS & label are pending.

6. Am I responsible for giving my customer a SDS for a grain, ingredient or feed product that I resell but do not further process?

Yes, if you received a SDS from the supplier of that product and do not further process, you must provide the same SDS to your customer with the initial shipment and again if the SDS is changed or updated. A distributor may substitute their own name, address and telephone number on the label and SDS instead of the Initial Supplier's name, address and telephone number.

If you are importing the product directly from a different country (i.e. you are the first Canadian contact), and distribute the product to another company, the SDS & label needs to be regenerated with your Canadian address.

7. Does an ingredient supplier, premix blender or feed manufacturer have the option – when preparing a SDS for a product that is a mixture – to develop a single SDS for a product containing a mixture, or simply send along to the customer multiple SDSs for each identified hazard ingredient in the mixture?

The SDS must be specific to the Material, Substance, Mixture or Product sold. It is not acceptable to provide a SDS for individual ingredients or raw materials in a mixture or product (example gathering individual SDSs and stapling together).

8. Bulk shipments are exempt from labelling requirements of the HPR. Are they also exempt from SDS requirements?

Bulk shipments are exempt from labelling under the HPR 5.5.2 but not exempt from SDS requirements.

Labelling Requirements

9. Are labels required under the WHMIS 2015 for feed, grain, and grain by-products, including shipments of bagged and bulk feed?

Grains, grain by-products and feed products must be labelled under WHMIS 2015 if classified as hazardous products under the Hazardous Products Regulations.

However, bulk shipments of a hazardous product are exempt from labelling requirements of the Hazardous Products Regulations under Section 5.5(2). A bulk shipment is defined in Section 5.5(1) as

“bulk shipment means a shipment of a hazardous product that is contained in any of the following, without intermediate containment or intermediate packaging:

- (a) a vessel that has a water capacity equal to or greater than 450 l;
- (b) a freight container, road vehicle, railway vehicle or portable tank;
- (c) the hold of a ship; or
- (d) a pipeline.”

10. Do I need to label a truck or rail car that solely contains grain dust and not whole grain?

No. Bulk shipments such as truck or rail car are exempt from labelling required of the Hazardous Products Regulations under Section 5.5(2).

11. Is labelling required under WHMIS 2015 for Grains Used for Biofuels?

Yes, labelling is required if it is classified as a hazardous product under the Hazardous Products Regulations.

12. Are WHMIS 2015 labels required for products an ingredient blender supplies and ships for non-animal feed uses, such as the production of fertilizers?

Yes, labelling is required if it is classified as a hazardous product under the Hazardous Products Regulations.

Transportation

13. Since grain dust may be defined as a hazardous chemical under WHMIS 2015, will truck drivers need any additional training or need to have a hazardous material certification?

No. Grain dust is not considered a dangerous good while being transported. The Transportation of Dangerous Goods Regulations codify items as Dangerous Goods for shipping.

Bulk or Bagged Feed Sold to Feed Dealers or Farms

14. Do I need to provide a SDS for bulk or bagged feeds that I produce and sell to a farm or reseller dealer?

Yes, if the feed is classified as a hazardous product under the Hazardous Products Regulations.

15. Do I need to provide my SDS and label in English or French or both? Can they be separate or do they need to be combined in one document?

The Safety Data Sheet must always be provided in both English and French. The SDS may either be a single bilingual SDS or 2 separate documents, one in English and one in French but both the English and French versions must always be provided together.

16. Can the SDS be provided electronically? Can I provide on request?

Yes, it may be provided electronically. But it must be provided proactively, it is not acceptable to say SDS is available on the website.

You must provide the SDS upon first shipment of product whether it was requested or not.

Section 5: Appendices

SDS TRAINING SECTION-BY-SECTION

A safety data sheet (SDS) is a document that describes the hazards associated with a hazardous product, and that provides information on safe use, handling, storage and disposal procedures.

The Safety Data Sheet must always be provided in both English and French. The SDS may either be a single bilingual SDS or 2 separate documents, one in English and one in French but both the English and French versions must always be provided together.

The new 16 section format with mandatory minimum headings and sub-headings for each section is detailed in the Hazardous Products Regulations Schedule 1.

A description of all 16 sections of the SDS, along with contents, is presented in Appendix B.

This section also contains a sample SDS for grain in Appendix C and a sample SDS for feed in Appendix D. Although it is permissible to group grain or feed SDSs into more generic SDSs, individual formulations need to be evaluated to determine whether this is possible.










APPENDIX A: WHMIS 2015 Labelling Requirements

Manufacturers and Importers of hazardous products must label the products in compliance with WHMIS 2015 no later than June 1, 2017.

The primary changes to WHMIS labelling are new WHMIS classes and subclasses, symbols, and statements.

- "Pictogram" means a composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical. Schedule 3 of the Hazardous Products Regulations designates which pictogram must be used for each hazard class.

SYMBOLS AND PICTOGRAMS

Item	Name of Symbol	Pictogram	Item	Name of Symbol	Pictogram
1.	Flame		6.	Skull and crossbones	
2.	Flame over circle		7.	Exclamation mark	
3.	Exploding bomb		8.	Health hazard	
4.	Corrosion		9.	Biohazardous infectious materials	
5.	Gas cylinder				

There is no symbol required for the hazard class Combustible Dusts.

- "Signal word" means a word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used in this section are "danger" and "warning." "Danger" is used for the more severe hazards, while "warning" is used for the less severe. The term "caution" is no longer used.
- Hazard statement means a phrase assigned to a category or subcategory of a hazard class or, in the case of column 5 of Parts 4 to 6 of Schedule 5, the required statement that

describes the nature of the hazard presented by a hazardous product. Example: Fatal if swallowed (Acute Oral Toxicity)


- Precautionary statement means a phrase that describes the recommended measures to take in order to minimize or prevent adverse effects resulting from exposure to a hazardous product or resulting from improper storage or handling of a hazardous product.

Labels on containers must include:

- (a) the product identifier;
- (b) the initial supplier identifier; company name, address and telephone number. This address must be in Canada and match the address on the SDS unless imported only for the importer's own use.
- (c) for each hazard class, the symbol, signal word, hazard statement and precautionary statement, that are specified for that category or subcategory in section 3 of Annex 3 of the GHS;
- (d) for Combustible Dusts, Simple Asphyxiants, Pyrophoric Gases, Physical Hazards Not Otherwise Classified (PHNOC), Biohazardous Infectious Materials (BIM) and Health Hazards Not Otherwise Classified (HHNOC), the information elements that are specified for that category in Schedule 5, and general/prevention/response/storage/disposal precautionary statements that are applicable to the hazardous product;
- (e) in the case of a hazardous product classified in an acute toxicity category and for which data is not available for all ingredients: the supplemental label element "x % of the mixture consists of an ingredient or ingredients of unknown acute toxicity", and
- (f) in the case of a hazardous product that is classified as an acute toxicant and that, upon contact with water, releases a gaseous substance that has an LC50 that falls into one of the ranges indicated in Table 3 to subsection 8.1.1(3): the supplemental label elements that consist of the following hazard statements:
 - (i) in the case of Categories 1 and 2, "In contact with water, releases gases which are fatal if inhaled"
 - (ii) in the case of Category 3, "In contact with water, releases gases which are toxic if inhaled"
 - (iii) in the case of Category 4, "In contact with water, releases gases which are harmful if inhaled"

Sample Label*

The following is a sample label affixed to a product denoting the identity of the hazardous chemical, the appropriate hazard warnings and the initial supplier identity.

Product Identifier <i>Chemical/product name or number</i>	Product K1 / Produit K1		
			Pictogram <i>Conveys specific information about the hazards of the chemical</i>
Signal Word <i>Alerts level of severity of hazard</i>	Danger	Danger	
	Fatal if swallowed. Causes skin irritation.	Mortel en cas d'ingestion. Provoque une irritation cutanée.	Hazard Statement
Precautionary Statements <i>Recommended prevention, response, storage & disposal measures</i>	Precautions: Wear protective gloves. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Store locked up. Dispose of contents/containers in accordance with local regulations.		<i>Describes nature of hazards associated with product</i>
	Conseils : Porter des gants de protection. Se laver les mains soigneusement après manipulation. Ne pas manger, boire ou fumer en manipulant ce produit. Garder sous clef. Éliminer le contenu/réceptacle conformément aux règlements locaux en vigueur.		
	IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse. IF SWALLOWED: Immediately call a POISON CENTRE or doctor. Rinse mouth.		First Aid Statement <i>Emergency care information</i>
Initial Supplier Identifier	ABC Chemical Co., 123 rue Anywhere St., Mytown, ON NON ONO (123) 456-7890		

* The label above is reproduced from the Health Canada Technical Guidance on the Requirements of the Hazardous Products Act and the Hazardous Products Regulations WHMIS 2015 Supplier Requirements December 2016.
Cat.: H129-64/1-2016E-PDF
ISBN: 978-0-660-06575-5
Pub.: 160158

HPR SCHEDULE 5 Label Information Elements for Combustible Dusts

Category	Name of Symbol	Symbol	Signal Word	Hazard Statement
Combustible Dusts - Category 1	No symbol	No symbol	Warning	(a) May form combustible dust concentrations in air; or (b) May form explosible dust-air mixture

Additionally, precautionary statements (Prevention/Response/Storage/Disposal) are required for Combustible Dusts on the SDS and label under HPR Section 3(1)(d)(ii). Although these statements are not defined in the HPR as they are for other hazard classes, it is the responsibility of the supplier to determine appropriate statements.

APPENDIX B: SDS Training Section-by-Section

1. Identification
<p>(a) product identifier; must be identical to product label;</p> <p>(b) other means of identification; (product codes);</p> <p>(c) recommended use and restrictions on use;</p> <p>(d) initial supplier identifier; company name, address and telephone number. This address must be in Canada and match the address on the Label unless imported only for the importer's own use.</p> <p>(e) emergency telephone number & any restrictions on the use of that number, if applicable such as time of availability and language restrictions</p>
2. Hazard Identification
<p>(a) Hazard class(es);</p> <p>(b) Symbol(s), hazard statements and precautionary statements</p>
3. Composition/Information on ingredients
<p>This section identifies the hazardous ingredient(s) including impurities, stabilizing solvents and stabilizing additives, contained in the product.</p> <p>(a) Chemical name;</p> <p>(b) Common name and synonyms;</p> <p>(c) CAS registry number and any unique identifiers, and</p> <p>(d) Concentration (must include units; w/w%, v/v%, w/v%, g/L)</p> <p>Withholding chemical names, CAS# or concentration as a trade secret requires approval and registration of a Claim for Exemption with Health Canada under the Hazardous Materials Information Review Act</p>
4. First-aid measures
<p>This section describes the initial care that should be given to an individual who has been exposed to the product.</p> <p>(a) a description of necessary first-aid measures, for each route of exposure (inhalation, ingestion, skin and eye contact);</p> <p>(b) the most important symptoms and effects, whether acute or delayed; and</p> <p>(c) indication of immediate medical attention & special treatment needed, if necessary</p>
5. Fire-fighting measures
<p>This section provides information for fighting a fire caused by the product. The required information consists of:</p> <p>(a) suitable and unsuitable extinguishing media;</p> <p>(b) specific hazards arising from the hazardous product, such as the nature of any hazardous combustion products; and</p> <p>(c) special protective equipment and precautions for fire-fighters</p>
6. Accidental release measures
<p>This section provides information on the appropriate response to spills, leaks, or releases, including containment and clean-up practices to prevent or minimize exposure to and adverse effects on people, property, or the environment. This includes distinction between responses to large and small spills, if the spill volume has a significant impact on the hazard.</p> <p>Description of the use of personal precautions (such as removal of ignition sources or providing sufficient ventilation) and protective equipment to prevent the hazardous product from coming into contact with skin, eyes, and clothing</p> <ul style="list-style-type: none"> • Description of emergency procedures, including instructions for evacuations, consulting experts when needed, and appropriate protective clothing • Description of methods and materials used for containment (such as covering the drains and capping procedures)

<ul style="list-style-type: none"> • Description of methods and materials for clean-up (such as appropriate techniques for neutralization, decontamination, cleaning or vacuuming; appropriate techniques for avoiding production of gases/fumes by water or other diluent; use of suitable adsorbent materials; and equipment required for containment and clean-up)
<p align="center">7. Handling and storage</p>
<p>This section provides information on safe handling practices and conditions for safe storage of hazardous products. The required information consists of:</p> <ul style="list-style-type: none"> • Precautions for safe handling of the hazardous product, such as cautionary measures related to incompatible products, mixtures, materials and substances (PMMS), and precautions for minimizing the release of the hazardous product into the environment • Description of the conditions for safe storage (e.g., temperature, humidity, avoiding sunlight), including any incompatibilities • Description of specific storage conditions (e.g., appropriate ventilation, avoiding sources of ignition, including particular arrangements to avoid static build-up)
<p align="center">8. Exposure controls/Personal protection</p>
<p>This section provides the occupational exposure limit values, biological limit values, information on engineering and/or administrative controls, and information on personal protective measures when using the hazardous product in order to minimize exposure. The required information consists of:</p> <ul style="list-style-type: none"> • Description of control parameters, including occupational exposure limit values or biological limit values and the source of those values • Description of appropriate engineering controls (e.g., use local or general exhaust ventilation, use only in an enclosed system or limit workers' exposure in exposure time etc.) • Description of personal protective measures to minimize exposure and prevent adverse effects from exposure, such as personal protective equipment to be worn by the worker (e.g., lab coat, appropriate types of eye, face, skin or respiratory protection needed based on hazards and potential exposure, and type of glove material)
<p align="center">9. Physical and chemical properties</p>
<p>(a) physical state; (b) colour; (c) odour; (d) melting point and freezing point; (e) boiling point or initial boiling point and range; (f) flammability; (g) lower and upper explosion limit or lower and upper flammability limit; (h) flash point; (i) auto-ignition temperature; (j) decomposition temperature; (k) pH; (l) kinematic viscosity; (m) solubility; (n) partition coefficient — n-octanol/water (logarithmic value); (o) vapour pressure; (p) density and relative density; (q) relative vapour density; and (r) particle characteristics</p> <p>If specific characteristics do not apply or are not available for the hazardous product, a statement that they do not apply (not applicable) or are not available must appear.</p>

10. Stability and reactivity

This section describes the possibility of hazardous reactions of the product under certain conditions and provides information on chemical stability. The required information consists of:

- Description of the reactivity hazards
- Indication of whether the hazardous product is stable or unstable under:
 - (a) normal ambient temperature and pressure conditions, and
 - (b) temperature and pressure conditions while in storage and being handled
- Description of any stabilizers that may be needed
- Indication of any safety issues that may arise and which are associated with a change in physical appearance of the hazardous product
- Indication of the possibility of hazardous reactions, including a statement of whether the hazardous product will react or polymerize, and could release excess pressure or heat, or create other hazardous conditions. Also, a description of the conditions under which hazardous reactions may occur
- List of all conditions to avoid, including static discharge, shock, vibrations. Other examples of conditions to avoid may include contact with moisture or air, temperature, pressure, exposure to sunlight
- List of all classes of incompatible materials with which the hazardous product could react resulting in a hazardous situation
- List of any known or anticipated hazardous decomposition products that could be produced as a result of the use, storage, or heating of the hazardous product

11. Toxicological information

This section provides a concise but complete description of the various health effects and the data used to identify those effects for either the material, substance or the mixture as whole or as hazardous ingredients. The required information includes:

- Information on likely routes of exposure (inhalation, ingestion, skin and eye contact)
- Description of the delayed and immediate effects
- Description of chronic effects from both short- and long-term exposure
- The numerical measures of toxicity, including acute toxicity estimates such as the LD₅₀. Further guidance is provided in the discussion of the definition of Acute Toxicity Estimate ("ATE") in both Part 1 and section 8.1 of the HPR
- Description of the symptoms following exposure. This description includes first symptoms at the lowest exposures through to the consequences of severe exposure to the hazardous product. For example, "Headaches and dizziness may occur, before/leading to fainting or unconsciousness: large doses may result in coma and death"

In the case of a mixture, the information provided under this heading must be the information that is available on the mixture as a whole, and if information is not available on the mixture as a whole, then it must be information that is available on the hazardous ingredients in the mixture. In the latter case, the chemical name of the hazardous ingredient to which the information applies must be clearly indicated.

12. Ecological information

Under the HPR, the content of the specific information elements of this section are optional, but the section heading and subheadings must still appear.

- (a) ecotoxicity (aquatic and terrestrial, if available, LC₅₀/EC₅₀);
- (b) persistence and degradability;
- (c) bioaccumulative potential;
- (d) mobility in soil; and
- (e) other adverse effects

13. Disposal considerations
Under the HPR, the content of the specific information elements of this section are optional, but the section heading and subheadings must still appear. Information on safe handling for disposal and methods of disposal, including any contaminated packaging
14. Transport information
Under the HPR, the content of the specific information elements of this section are optional, but the section heading and subheadings must still appear. (a) UN number; (b) United Nations proper shipping name as provided for in the United Nations Model Regulations; (c) transport hazard class as provided in the United Nations Model Regulations; (d) packing group as provided in the United Nations Model Regulations; (e) environmental hazards as referenced in the International Maritime Dangerous Goods Code and the United Nations Model Regulations, and (f) transport in bulk (per Annex II of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 (MARPOL 73/78), and the International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (IBC Code)); and (g) special precautions related to transport or conveyance either within or outside the premises
15. Regulatory information
Under the HPR, the content of the specific information elements of this section are optional, but the section heading and subheadings must still appear. Safety, health and environmental regulations, made within or outside Canada, specific to the product in question
16. Other information
Date of the latest revision of the safety data sheet

APPENDIX C: Sample Safety Data Sheet for Grain

1. Identification		
PRODUCT NAME:	Whole Grain	
SDS NUMBER:		
PRODUCT USE:		
MANUFACTURER:	Name, Canadian address, phone #	
EMERGENCY TELEPHONE#:		
2. Hazard Identification		
<p>Hazard classes: Eye Irritation - Category 2B, Combustible Dusts</p> <p>Symbol: None</p> <p>Signal Word: Warning</p> <p>Hazard Statements: Causes eye irritation. May form Combustible Dusts concentrations in air. May cause breathing difficulties if inhaled. If small particles are generated during further processing, handling or by other means, may form Combustible Dusts concentrations in air.</p> <p>Precautionary Statements: Wash hands thoroughly after handling Dust from particulates may be a mechanical eye irritant. Rinse eyes with water for several minutes. Avoid breathing dust. Excessive inhalation may affect nose, throat and lungs. Avoid Ignition sources: Grain dust may burn if suspended in air and may create a flash fire/explosion hazard.</p> <p>Explosion Hazard: Grains is generally considered non-hazardous but dust generated through downstream activities that may reduce particles size (e.g. shipping, handling, transfer to bins etc.) may create a hazardous condition. If exposed to an ignition source, dust may burn, airborne dust in sufficient concentrations when exposed to an ignition source may flash or in a confined situation, may fuel an explosion hazard.</p>		
3. Composition/Information on ingredients		
Component	CAS#	Concentration (w/w%)
Whole grains	Not Applicable	90-100
Grain dust	Not Applicable	0-5
Foreign material (organic plant material)	Not Applicable	0-5
4. First-aid measures		
<p>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice.</p> <p>IF ON SKIN: Washed affected skin with soap and water.</p> <p>IF INHALED: Remove person from exposure. Seek medical attention for any breathing difficulty.</p>		
5. Fire-fighting measures		
<p>Extinguishing media: Extinguish with water fog, dry chemical powders or foam. Do not use strong streams of water or dry chemical if dust can be dispersed into the air.</p> <p>Specific fire hazards: Whole grain is not explosive. Fine dust dispersed in air at sufficient concentration may ignite if exposed to an ignition source.</p> <p>Hazardous combustion products: Oxides of carbon</p>		

6. Accidental release measures

Clean up with soft bristle broom(s) or a vacuum approved for a hazardous location. Dust deposits should be maintained to a minimum on surfaces, as these could form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., cleaning dust surfaces with compressed air in the presence of ignition source should not be allowed).

7. Handling and storage

Fine dust dispersed in air at a sufficient concentration may ignite if exposed to an ignition source. Remove grain dust from area/processing equipment prior to using any heat producing equipment such as arc welders, cutting torches and spark/heat producing tools such as portable surface grinders.

8. Exposure controls/Personal protection

Respiratory protection: Wear an approved NIOSH/CSA dust respirator whenever dust concentrations in the work area are above occupational exposure limits

Jurisdiction	Dust Type	PEL-TWA 8hr (mg/m ³)
Canada (Federal workplace)	Grain dust (oat, wheat, barley)	10
Alberta	Grain dust (oat, wheat, barley)	4
British Columbia	Grain dust (oat, wheat, barley)	4
Manitoba	Grain dust (oat, wheat, barley)	4
New Brunswick	Grain dust (oat, wheat, barley)	4
Newfoundland & Labrador	Grain dust (oat, wheat, barley)	4
Northwest Territories	Grain dust (oat, wheat, barley)	4
Nova Scotia	Grain dust (oat, wheat, barley)	4
Nunavut	Grain dust (oat, wheat, barley)	4
Ontario	Grain dust (oat, wheat, barley)	4
P.E.I.	Grain dust (oat, wheat, barley)	4
Quebec	Grain dust (oat, wheat, barley)	4
Saskatchewan	Grain dust (oat, wheat, barley)	4
Yukon	Grain dust (oat, wheat, barley)	not listed

Ventilation: local exhaust: if needed

Mechanical (general): if needed

Ensure that dust handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work areas. Use only appropriately classified electrical equipment and powered industrial trucks.

Protective gloves: not applicable

Eye protection: safety glasses / goggles suggested in dusty conditions

Work/ hygienic practices: Good personal hygiene practices should be followed.

Avoid excessive dust accumulation and control ignition sources. where appropriate, employ grounding, venting, and explosion relief provisions in accordance with accepted engineering practices in processes capable of generating dust and/or static electricity

9. Physical and chemical properties	
Physical state	whole grain - grain dust - powder
Colour	Natural grain color – light, grayish or brown
Odour	Not applicable
Melting point and freezing point	Not applicable
Boiling point or initial boiling point and range	Not applicable
Flammability	Not applicable
Lower and upper explosion limit or lower and upper flammability limit	Not applicable
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
pH	Not applicable
Kinematic viscosity	Not applicable
Solubility	Not applicable
Partition coefficient — n-octanol/water (logarithmic value)	Not applicable
Vapour pressure	Not applicable
Density and relative density	Not applicable
Relative vapour density	Not applicable
Particle characteristics	Not applicable
10. Stability and reactivity	
Reactivity hazards:	Not applicable
Stability:	Stable
Hazardous Decomposition Products	CO ₂ , H ₂ S and oxygen deficient atmospheres under improper storage conditions.
Conditions to avoid:	dispersing dust in air, above MEC, and exposure to potential ignition sources
Incompatible materials:	Not applicable
11.Toxicological information	
Routes of exposure:	Inhalation, Skin and Eye contact
Acute effects:	May be mechanical irritant to skin and eyes. Excessive inhalation of grain dusts may affect the nose, throat, and lungs.
Chronic effects:	Repeated and prolonged exposure to grain dusts may affect the respiratory system or cause sensitization. Smokers have an increased risk of respiratory effects.

Toxicological data: LD₅₀ (oral): LD₅₀ (dermal): LC₅₀ (Inhalation):	Not applicable Not applicable Not applicable
Signs and symptoms of exposure:	Irritation to the skin, eyes, nose or throat may occur. Some people may occasionally experience coughing.
Medical conditions generally aggravated by exposure	Allergies and respiratory ailments.
12. Ecological information	
Ecotoxicity	Not applicable
Persistence and degradability	Not applicable
Bioaccumulative potential;	Not applicable
Mobility in soil	Not applicable
Other adverse effects	Not applicable
13. Disposal considerations	
Waste material should be disposed of using conventional methods in compliance with all Federal, Provincial and local government regulations.	
14. Transport information	
UN Number:	Not applicable
Proper Shipping name:	Not applicable
Hazard class :	Not applicable
Packing Group:	Not applicable
IMDG environmental hazards:	Not applicable
MARPOL:	Not applicable
Special precautions in connection with transport or conveyance either within or outside the premises	Avoid excessive dust accumulation and control ignition sources, where appropriate, employ grounding, venting, and explosion relief provisions in accordance with accepted engineering practices in processes capable of generating dust and/or static electricity
15. Regulatory information	
Not Available	
16. Other information	
<p>This safety data sheet covers grain in its natural state and does not include chemicals that may be applied by subsequent handlers and/or distributors of this product. The information in this SDS was obtained from sources that we believe are reliable; however, the information is provided without any representation or warranty, expressed or implied, regarding the accuracy or correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with the handling, storage, use, or disposal of this product.</p> <p>Date of issue:</p> <p>Prepared by:</p>	

APPENDIX D: Sample Safety Data Sheet for Feeds Classified as Combustible Dusts

This SDS is a sample and may not apply to all feed formulations. For example, feed with certain added medications premixes, vitamin and mineral supplements may contain ingredients that result in different or additional hazards, may require additional accidental release measures, may have differing toxicological exposures and/or may require additional exposure controls and personal protection. The manufacturer is encouraged to evaluate each feed formulation to determine if this generic SDS is appropriate.

This sample SDS is not intended to suggest that a SDS is required for all feed in all circumstances. The manufacturer or importer should make its own interpretation of Health Canada's HPR, including the exemptions in the HPR, for its specific product.

Section 1: Identification	
Product name:	Feeds
SDS number:	Feed
Synonyms/other means of identification:	
Intended use:	Feed and other
Manufacturer:	Your company name here
Emergency health and safety number:	
SDS information:	Phone: E-mail: URL:
Section 2: Hazard(s) identification	
<p><u>Classification:</u> Organic dust</p> <p><u>Label elements:</u> Signal word: Warning</p> <p><u>Hazard statement(s):</u> Class 2b eye irritant. May cause breathing difficulties if inhaled. May create a flash fire or explosion hazard if dust of certain particle size is suspended in air at sufficient concentration in a confined space and exposed to an ignition source.</p>	

Precautionary statement(s):

May be mechanical eye irritant. Rinse eyes with water for several minutes. Avoid breathing dust. Excessive inhalation may affect nose throat, and lungs. Feed dust may burn if suspended in air and may create a flash fire/ explosion hazard. Avoid ignition sources.

Emergency overview: May be mechanical irritant to eyes. Excessive inhalation of feed dusts may affect nose throat, and lungs. May form combustible dust concentration in air; see "explosion hazard" below.

Explosion hazard: Feed is generally considered not hazardous, but dust generated through downstream activities that may reduce its particle size (e.g., shipping, handling, transfer to bins, etc.) may create a hazardous condition.

If exposed to an ignition source, feed dust may burn. Airborne dust in sufficient concentrations when exposed to an ignition source may flash or, in a confined situation, may fuel an explosion.

Section 3: Composition/information on ingredients

Component	CAS#	Concentration (w/w%)
Dust from prepared animal feeds (grains, plant and/or animal proteins, vitamins and minerals)		100%

Section 4: First-aid measures**Inhalation:**

Remove person from exposure. seek medical attention for any breathing difficulty.

Ingestion:

If swallowed, give several glasses of water to dilute. Never give anything by mouth to an unconscious person.

Skin contact:

Wash affected skin with soap and water.

Eye contact:

Flush eyes with water. Seek medical attention as needed.

Section 5: Fire-fighting measures

Hazardous combustion products: Oxides of carbon

Special fire-fighting procedures: Extinguish with water fog, dry chemical powders or foam. Do not use strong streams of water or dry chemical if dust can be dispersed into the air. Dust placed in suspension with an ignition sources present may flash or explode.

Unusual fire and explosion hazards: Explosion hazard may exist for combustible dusts of certain particle size and moisture content when suspended in air at certain concentrations and subjected to an ignition source.


Section 6: Accidental release measures

Clean up with soft bristle broom(s) or a vacuum approved for a class ii hazardous location. Dust deposits should be maintained to a minimum on surfaces, as these could form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., cleaning dust surfaces with compressed air in the presence of ignition source should not be allowed). Non-sparking tools should be used.

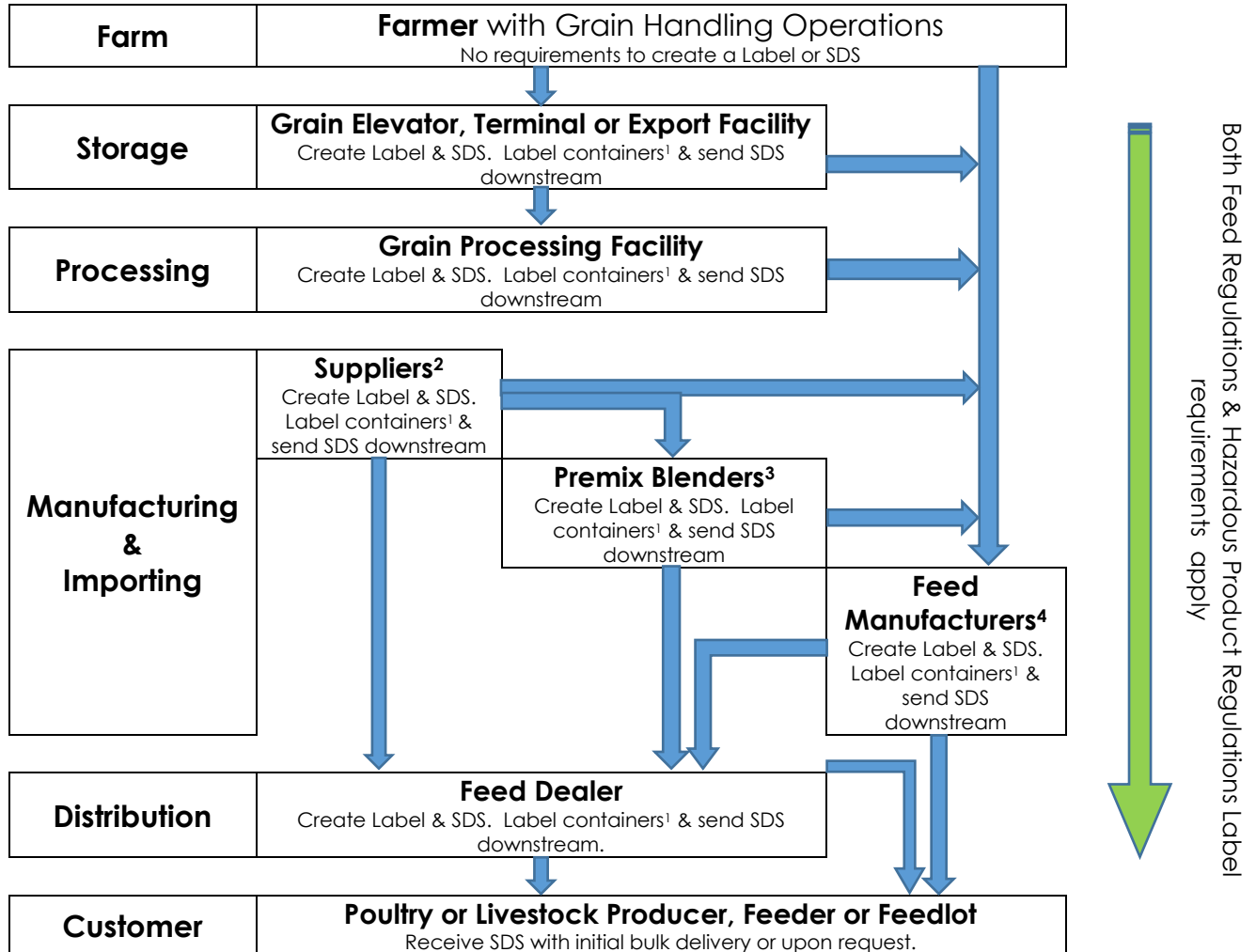
Section 7: Handling and storage		
Avoid dispensing dust in air and exposure to potential ignition sources. Remove feed dust from area/processing equipment prior to using any heat producing equipment such as arc welders, cutting torches and spark/heat producing tools such as portable surface grinders.		
Section 8: Exposure controls/personal protection		
Respiratory protection: May cause irritation of the nasal membranes or the upper respiratory tract. If dust exceeds the nuisance level. Wear an approved NIOSH dust respirator whenever dust concentrations in the work area are above ACGIH TLV/OSHA PELs.		
Ventilation: Local exhaust: If needed		
Mechanical (general): If needed		
Ensure that dust handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work areas. Use only appropriately classified electrical equipment and powered industrial trucks.		
Protective gloves: N/A		
Eye protection: Safety glasses / goggles suggested in dusty conditions		
Work/ hygienic practices: Good personal hygiene practices should be followed. Wash hands and face before eating, drinking, etc.		
Avoid dust accumulation and control ignition sources. Where appropriate, employ grounding, venting, and explosion relief provisions in accordance with accepted engineering practices in processes capable of generating dust and/or static electricity. Avoid accumulation of dust on surfaces to prevent secondary dust explosions. Refer to appropriate OSHA, NFPA and applicable standards.		
Section 9: Physical and chemical properties		
Flash point (method): N/A		
Flammable limits:	LEL: Variable	UEL: Unknown
Autoignition temperature: Unknown		
Appearance: Tan to dark brown in appearance with perhaps a sweet odour		
Solid contents: 100%		
Section 10: Stability and reactivity		
Stability:	Unstable:	Condition to avoid: N/A
	Stable: x	
Incompatibility (materials to avoid): None known		
Hazardous decomposition or byproducts: None known		
Hazardous polymerization: May occur:		Condition to avoid: N/A
Will not occur: x		

Section 11: Toxicological information
Routes of entry: Inhalation: x Skin: x Eyes: x Ingestion: unlikely Acute: May be mechanical irritant to skin and eyes. Excessive inhalation of feed dusts may affect the nose, throat, and lungs. Chronic: Repeated and prolonged inhalation of feed dusts may affect the respiratory system. Smokers have an increased risk of respiratory effects. Signs and symptoms of exposure: Irritation to the skin, eyes, nose or throat may occur. Some people may occasionally experience coughing. Medical conditions generally aggravated by exposure: Allergies and respiratory ailments.
Section 12: Ecological information: (header required; content optional)
Section 13: Disposal considerations: (header required; content optional)
Section 14: Transport information: (header required; content optional)
Section 15: Regulatory information: (header required; content optional)
.
Section 16: Other information
<p>Animal feed is comprised of whole and processed grains and may contain added vitamins and minerals. Feed components generally produce a limited amount of dust in manufacturing and handling of the material.</p> <p><i>As per subsection 4(2) of the HPR, the content of the specific information elements may be omitted as long as the item number and heading appear on the SDS. If provided, this section offers information on the safety, health and environmental regulations, made within or outside of Canada, specific to the product in question.</i></p>

APPENDIX E: Sample Premix Label for Feed

<p>Product Name</p> 	<p>Danger Hazard statements May form combustible dust concentrations in air. H302 Harmful if swallowed. H315 Causes skin irritation. H318 Causes serious eye damage. H360 May damage fertility or the unborn child. H373 May cause damage to organs through prolonged or repeated exposure.</p> <p>Precautionary statements Prevention: P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>Response: P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. P302 + P352 IF ON SKIN: Wash with plenty of water. P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. P308 + P313 IF exposed or concerned: Get medical advice/ attention. P332 + P313 If skin irritation occurs: Get medical advice/ attention. P362 + P364 Take off contaminated clothing and wash it before reuse.</p> <p>Storage: P405 Store locked up.</p> <p>Disposal: P501 Dispose of contents/ container to an approved waste disposal plant.</p> <p>Contains: Iron sulphate monohydrate, manganese sulphate, copper sulphate pentahydrate, retinyl acetate</p> <p>Danger Mentions de danger Peut former des concentrations de poussière combustibles dans l'air. H302 Nocif en cas d'ingestion. H315 Provoque une irritation cutanée. H318 Provoque des lésions oculaires graves. H360 Peut nuire à la fertilité ou au fœtus. H373 Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.</p> <p>Conseils de prudence Prévention: P201 Se procurer les instructions avant utilisation. P202 Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité. P260 Ne pas respirer les poussières/ fumées/ gaz/ brouillards/ vapeurs/ aérosols. P264 Se laver la peau soigneusement après manipulation. P270 Ne pas manger, boire ou fumer en manipulant ce produit. P280 Porter des gants de protection/ des vêtements de protection/ un équipement de protection des yeux/ du visage.</p> <p>Intervention: P301 + P312 + P330 EN CAS D'INGESTION: Appeler un CENTRE ANTIPOISON/un médecin en cas de malaise. Rincer la bouche. P302 + P352 EN CAS DE CONTACT AVEC LA PEAU: Laver abondamment à l'eau. P305 + P351 + P338 + P310 EN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. Appeler immédiatement un CENTRE ANTIPOISON/un médecin. P308 + P313 EN CAS d'exposition prouvée ou suspectée: consulter un médecin. P332 + P313 En cas d'irritation cutanée: consulter un médecin. P362 + P364 Enlever les vêtements contaminés et les laver avant réutilisation.</p> <p>Stockage: P405 Garder sous clef.</p> <p>Élimination: P501 Éliminer le contenu/réceptacle dans une installation d'élimination des déchets agréée.</p> <p>Contient: sulfate de fer monohydraté, sulfate de manganèse, sulfate de cuivre pentahydraté, acétate de rétinyle</p> <p>Supplier/Fournisseur: Animal Nutrition Association of Canada/Association de animal du Canada, 150 rue Metcalfe Street, Suite 1301 Ottawa Ontario K2P 1P1 613-241-6421 Monday/Lundi – Friday/Vendredi 9 am – 5 pm</p>
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APPENDIX F: Label & SDS Compliance Points for the Grain, Feed, Processing and Milling Industries



¹ Bulk shipments of a hazardous product are exempt from labelling required of the Hazardous Products Regulations under Section 5.5(2).

² **Ingredient Suppliers** – Manufacturers of Minerals, vitamins or other additives

³ **Premix Blenders** – Blend minerals, vitamins and other additives into premixes for Feed Manufacturers.

⁴ **Feed Manufacturers** – Blend processed grains, protein sources, premixes and other additives.

APPENDIX G: Resources and Links

WHMIS 2015 Resources

Hazardous Products Act	http://laws-lois.justice.gc.ca/eng/acts/H-3/
Hazardous Products Regulations	http://laws-lois.justice.gc.ca/eng/regulations/SOR-2015-17/index.html
Hazardous Materials Information Review Act	http://lois-laws.justice.gc.ca/eng/acts/H-2.7/
Hazardous Materials Information Review Regulations	http://lois-laws.justice.gc.ca/eng/regulations/SOR-88-456/index.html
WHMIS.org	http://whmis.org/#whmis-carousel
WHMIS Technical Guidance Manual	http://www.hc-sc.gc.ca/ewh-semt/pubs/occup-travail/technical-guidance-whmis-2015-guide-technique-simdut/index-eng.php
CFIA RG-1 Regulatory Guidance: Feed Registration Procedures and Labelling Standards Chapter 4 – Labelling and Guarantees	http://www.inspection.gc.ca/animals/feeds/regulatory-guidance/rg-1/chapter-4/eng/1329341411340/1329341520337

Federal/Provincial/Territorial Occupational Health & Safety Regulations

Jurisdiction	Occupational Health & Safety Regulation
Canada	http://laws-lois.justice.gc.ca/eng/regulations/SOR-86-304/
Alberta	https://work.alberta.ca/documents/WHs-LEG_ohsc_2009.pdf
British Columbia	https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-regulation/part-05-chemical-and-biological-substances#F90B861D458E46028AAE4F574CC2CC7C
Manitoba	http://web2.gov.mb.ca/laws/regs/current/217.06.pdf
NB	http://laws.gnb.ca/en/ShowTdm/cr/2016-6//
NFLD	http://www.assembly.nl.ca/Legislation/sr/Regulations/rc961149.htm
NS	http://novascotia.ca/just/regulations/regs/ohs6489.htm
NWT & Nunavut	https://www.justice.gov.nt.ca/en/files/legislation/safety/safety.r8.pdf
Ontario	https://www.ontario.ca/laws/regulation/900860
PEI	https://www.princeedwardisland.ca/sites/default/files/legislation/o01-01-3.pdf
Quebec	http://legisquebec.gouv.qc.ca/en/ShowDoc/cr/S-2.1,%20r.%208.1
Saskatchewan	http://www.qp.gov.sk.ca/documents/English/Regulations/Regulations/S15-1R6.pdf
Yukon	http://www.gov.yk.ca/legislation/regs/oic2015_151.pdf

Appendix H: Definitions and Acronyms

Term	Definition
CPR	Controlled Products Regulations: Repealed 11/02/2015. Synonymous with WHMIS 1988
Claim for Exemption	When a supplier or employer wants to be exempt from having to disclose confidential business information (CBI), such as the chemical identity of one or more trade-secret hazardous ingredients, they must file a claim for exemption with Health Canada under the Hazardous Materials Information Review Act to receive a Registry Number. Issued by Health Canada, the Registry Number is required to be shown on the (M)SDS and for certain claims, on the label, for that product to be sold on the Canadian market without disclosure of the CBI.
CLP	Classification, Labelling and Packaging. EU implementation of GHS
Feed	Feeds Act defines feed as “any substance or mixture of substances containing amino acids, anti-oxidants, carbohydrates, condiments, enzymes, fats, minerals, non-protein nitrogen products, proteins or vitamins, or pelletizing, colouring, foaming or flavouring agents and any other substance manufactured, sold or represented for use (a) for consumption by livestock, (b) for providing the nutritional requirements of livestock, or (c) for the purpose of preventing or correcting nutritional disorders of livestock, or any substance for use in any such substance or mixture of substances; (aliments)”
Food	Food and Drug Act defines food as “includes any article manufactured, sold or represented for use as food or drink for human beings, chewing gum, and any ingredient that may be mixed with food for any purpose whatever”
GHS	Globally Harmonized System for the Classification and Labelling of Chemicals
Hazardous product	HPA Section 2: means any product, mixture, material or substance that is classified in accordance with the regulations made under subsection 15(1) of the HPA in a category or subcategory of a hazard class listed in Schedule 2 of the HPA;
HCS 2012	Hazard Communication Standard (HCS). This is the US OSHA Hazard Communication System 29CFR1910.1200
HMIRA	Hazardous Materials Information Review Act
HMIRR	Hazardous Materials Information Review Regulations
HPA	Hazardous Products Act : http://laws.justice.gc.ca/eng/acts/H-3/FullText.html
HPR	Hazardous Products Regulations
IARC	International Agency for Research on Cancer
Initial Supplier	The manufacturer in Canada or the importer of the hazardous product who operates in Canada.
Material	The term “material” is not defined in the HPA, but under the HPR, it is generally used in the context of Biohazardous Infectious Materials.
Mixture	“mixture” means a combination of, or a solution that is composed of, two or more ingredients that, when they are combined, do not react with each other, but excludes any such combination or solution that is a substance;

NTP	The National Toxicology Program (NTP) is an inter-agency program run by the United States Department of Health and Human Services to coordinate, evaluate, and report on toxicology within public agencies
Product	The term "product" is not defined, but is used in the HPR in sections relating to physical hazard classes such as Flammable Aerosols and Gases Under Pressure, where the packaging of the mixture, material or substance, as well as the contents of the packaging, must be considered for the purpose of classification
RIAS	Regulatory Impact Analysis Statement. Published with each new regulation to provide context and a detailed and systematic appraisal of the potential impacts of a new regulation in order to assess whether the regulation is likely to achieve the desired objectives
SDS	Safety Data Sheet
Substance	means any chemical element or chemical compound — that is in its natural state or that is obtained by a production process — whether alone or together with (a) any additive that is necessary to preserve the stability of the chemical element or chemical compound, (b) any solvent that is necessary to preserve the stability or composition of the chemical element or chemical compound, or (c) any impurity that is derived from the production process;
WHMB	Workplace Hazardous Materials Bureau
WHMIS	Workplace Hazardous Materials Information System