

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

AMMO-CARB

PRODUCT USE

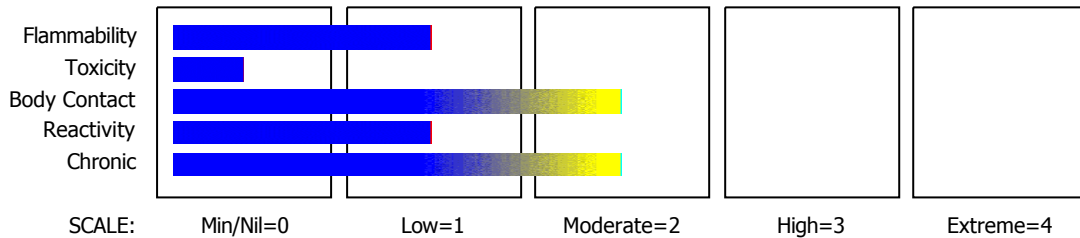
! Used according to manufacturer's directions.
 For product 80.

SUPPLIER

Company: Mars Fishcare Inc
 Address:
 50 East Hamilton Street
 Chalfont
 PA, 18914
 USA
 Telephone: +1 215 822 8181
 Fax: +1 215 822 1906

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS



GHS Classification

Eye Irritation Category 2B
 Respiratory Irritation Category 3



EMERGENCY OVERVIEW

HAZARD

WARNING

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Section 2 - HAZARDS IDENTIFICATION

Determined by Chemwatch using GHS criteria:

H335 H320 H320

May cause respiratory irritation

Causes eye irritation

Causes eye irritation

PRECAUTIONARY STATEMENTS

Prevention

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Response

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a POISON CENTER or doctor/physician if you feel unwell.

If eye irritation persists: Get medical advice/attention.

Storage

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
zeolites	1318-02-1	80-90
carbon, steam activated - not regulated	7440-44-0	10-20
water	7732-18-5	1-5

Section 4 - FIRST AID MEASURES

SWALLOWED

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

EYE

‡ If this product comes in contact with the eyes:

- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

‡ If skin or hair contact occurs:

- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

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Section 4 - FIRST AID MEASURES

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

NOTES TO PHYSICIAN

- ! Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES**EXTINGUISHING MEDIA**

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

FIRE/EXPLOSION HAZARD

- Solid which exhibits difficult combustion or is difficult to ignite.
- Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion.
- Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited; once initiated larger particles up to 1400 microns diameter will contribute to the propagation of an explosion.
- A dust explosion may release of large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people.
- Usually the initial or primary explosion takes place in a confined space such as plant or machinery, and can be of sufficient force to damage or rupture the plant. If the shock wave from the primary explosion enters the surrounding area, it will disturb any settled dust layers, forming a second dust cloud, and often initiate a much larger secondary explosion. All large scale explosions have resulted from chain reactions of this type.
- Dry dust can also be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport.
- Build-up of electrostatic charge may be prevented by bonding and grounding.
- Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.
- All movable parts coming in contact with this material should have a speed of less than 1-metre/sec.

Decomposition may produce toxic fumes of: carbon dioxide (CO₂), other pyrolysis products typical of burning organic material.

May emit poisonous fumes.

May emit corrosive fumes.

FIRE INCOMPATIBILITY

- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

PERSONAL PROTECTION

Glasses:
 Chemical goggles.

Gloves:
 PVC chemical resistant type.

Respirator:
 Particulate

Section 6 - ACCIDENTAL RELEASE MEASURES**MINOR SPILLS**

- Clean up all spills immediately.
- Avoid breathing dust and contact with skin and eyes.

continued...

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Section 6 - ACCIDENTAL RELEASE MEASURES

-
- Wear protective clothing, gloves, safety glasses and dust respirator.
 - Use dry clean up procedures and avoid generating dust.
 - Sweep up, shovel up or
 - Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).
 - Place spilled material in clean, dry, sealable, labelled container.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

! NOTE:

- Wet, activated carbon removes oxygen from the air thus producing a severe hazard to workers inside carbon vessels and in enclosed or confined spaces where activated carbons might accumulate.
- Before entry to such areas, sampling and test procedures for low oxygen levels should be undertaken; control conditions should be established to ensure the availability of adequate oxygen supply.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- DO NOT allow material to contact humans, exposed food or food utensils.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

- Polyethylene or polypropylene container.
- Check all containers are clearly labelled and free from leaks.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry area protected from environmental extremes.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations

For major quantities:

- Consider storage in bunded areas - ensure storage areas are isolated from sources of community water (including stormwater, ground water, lakes and streams).
- Ensure that accidental discharge to air or water is the subject of a contingency disaster management plan; this may require consultation with local authorities.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+: May be stored together
 O: May be stored together with specific preventions
 X: Must not be stored together

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

US OSHA Permissible Exposure Levels (PELs)

Z	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	Max excursion ppm	Max excursion mg/m ³	Max excursion duration (mins)	TWA F/CC
Z3	Inert or Nuisance Dust: (d) Respirable fraction		5								
Z3	Inert or Nuisance Dust: (d) Total dust		15								
Z1	Carbon black		3.5								

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Notes
US - Oregon Permissible Exposure Limits (Z3)	zeolites (Inert or Nuisance Dust: (d) Total dust)		10			*
US OSHA Permissible Exposure Levels (PELs) - Table Z3	zeolites (Inert or Nuisance Dust: (d) Respirable fraction)		5			
US OSHA Permissible Exposure Levels (PELs) - Table Z3	zeolites (Inert or Nuisance Dust: (d) Total dust)		15			
US - Hawaii Air Contaminant Limits	zeolites (Particulates not other wise regulated - Total dust)		10			
US - Hawaii Air Contaminant Limits	zeolites (Particulates not other wise regulated - Respirable fraction)		5			
US - Oregon Permissible Exposure Limits (Z3)	zeolites (Inert or Nuisance Dust: (d) Respirable fraction)		5			*

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Notes
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	zeolites (Particulates not otherwise regulated Respirable fraction)		5			
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	zeolites (Particulates not otherwise regulated (PNOR)(f)- Respirable fraction)		5			
US - Michigan Exposure Limits for Air Contaminants	zeolites (Particulates not otherwise regulated, Respirable dust)		5			
US NIOSH Recommended Exposure Limits (RELs)	carbon, steam activated - not regulated (Carbon black in presence of polycyclic aromatic hydrocarbons (PAHs))		0.1			
US NIOSH Recommended Exposure Limits (RELs)	carbon, steam activated - not regulated (Carbon black)		3.5			
Canada - Alberta Occupational Exposure Limits	carbon, steam activated - not regulated (Carbon black)		3.5			
US ACGIH Threshold Limit Values (TLV)	carbon, steam activated - not regulated (Carbon black)		3.5			
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	carbon, steam activated - not regulated (Carbon black)		3.5			
Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	carbon, steam activated - not regulated (Carbon black)		3.5			
US OSHA Permissible Exposure Levels (PELs) - Table Z1	carbon, steam activated - not regulated (Carbon black)		3.5			
Canada - British Columbia Occupational Exposure Limits	carbon, steam activated - not regulated (Carbon black)		3.5			2B

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Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Notes
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	carbon, steam activated - not regulated (Carbon black)		3.5			
US - Vermont Permissible Exposure Limits Table Z- 1- A Transitional Limits for Air Contaminants	carbon, steam activated - not regulated (Carbon black)		3.5			
US - Vermont Permissible Exposure Limits Table Z- 1- A Final Rule Limits for Air Contaminants	carbon, steam activated - not regulated (Carbon black)		3.5			
US - Idaho - Limits for Air Contaminants	carbon, steam activated - not regulated (Carbon black)		3.5			
Canada - Ontario Occupational Exposure Limits	carbon, steam activated - not regulated (Carbon black)		3.5			
US - Minnesota Permissible Exposure Limits (PELs)	carbon, steam activated - not regulated (Carbon black)		3.5			
US - California Permissible Exposure Limits for Chemical Contaminants	carbon, steam activated - not regulated (Carbon black)		3.5			
US - Hawaii Air Contaminant Limits	carbon, steam activated - not regulated (Carbon black)		3.5		7	
US - Alaska Limits for Air Contaminants	carbon, steam activated - not regulated (Carbon black)		3.5			
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	carbon, steam activated - not regulated (Carbon black)		3.5		7	
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	carbon, steam activated - not regulated (Carbon black)	-	3.5	-	7	

continued...

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Notes
US - Washington Permissible exposure limits of air contaminants	carbon, steam activated - not regulated (Carbon black)		3.5		7	
Canada - Nova Scotia Occupational Exposure Limits	carbon, steam activated - not regulated (Carbon black)		3.5			
Canada - Prince Edward Island Occupational Exposure Limits	carbon, steam activated - not regulated (Carbon black)		3.5			
Canada - Northwest Territories Occupational Exposure Limits (English)	carbon, steam activated - not regulated (Carbon black)		3.5		7	
US - Michigan Exposure Limits for Air Contaminants	carbon, steam activated - not regulated (Carbon black)		3.5			
US - Oregon Permissible Exposure Limits (Z1)	carbon, steam activated - not regulated (Carbon black)		3.5			
US - Minnesota Permissible Exposure Limits (PELs)	carbon, steam activated - not regulated (Graphite, synthetic - Total dust)		10			
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	carbon, steam activated - not regulated (Graphite (synthetic))		(See Table 11)			
US - Vermont Permissible Exposure Limits Table Z- 1- A Final Rule Limits for Air Contaminants	carbon, steam activated - not regulated (Graphite, synthetic - Respirable Fraction)		5			
US - Vermont Permissible Exposure Limits Table Z- 1- A Final Rule Limits for Air Contaminants	carbon, steam activated - not regulated (Graphite, synthetic - Total dust)		10			

The following materials had no OELs on our records

- water:

CAS:7732- 18- 5

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m3)	Revised IDLH Value (ppm)
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carbon, steam activated - not regulated

1, 750

MATERIAL DATA

AMMO-CARB:

Not available

ZEOLITES:

‡ It is the goal of the ACGIH (and other Agencies) to recommend TLVs (or their equivalent) for all substances for which there is evidence of health effects at airborne concentrations encountered in the workplace.

At this time no TLV has been established, even though this material may produce adverse health effects (as evidenced in animal experiments or clinical experience). Airborne concentrations must be maintained as low as is practically possible and occupational exposure must be kept to a minimum.

NOTE: The ACGIH occupational exposure standard for Particles Not Otherwise Specified (P.N.O.S) does NOT apply.

CARBON, STEAM ACTIVATED - NOT REGULATED:

‡ Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations. Present day expectations require that nearly every individual should be protected against even minor sensory irritation and exposure standards are established using uncertainty factors or safety factors of 5 to 10 or more. On occasion animal no-observable-effect-levels (NOEL) are used to determine these limits where human results are unavailable. An additional approach, typically used by the TLV committee (USA) in determining respiratory standards for this group of chemicals, has been to assign ceiling values (TLV C) to rapidly acting irritants and to assign short-term exposure limits (TLV STELs) when the weight of evidence from irritation, bioaccumulation and other endpoints combine to warrant such a limit. In contrast the MAK Commission (Germany) uses a five-category system based on intensive odour, local irritation, and elimination half-life. However this system is being replaced to be consistent with the European Union (EU) Scientific Committee for Occupational Exposure Limits (SCOEL); this is more closely allied to that of the USA.

OSHA (USA) concluded that exposure to sensory irritants can:

- cause inflammation
- cause increased susceptibility to other irritants and infectious agents
- lead to permanent injury or dysfunction
- permit greater absorption of hazardous substances and
- acclimate the worker to the irritant warning properties of these substances thus increasing the risk of overexposure.

The TLV-TWA for carbon black is recommended to minimise complaints of excessive dirtiness and applies only to commercially produced carbon blacks or to soots derived from combustion sources containing absorbed polycyclic aromatic hydrocarbons (PAHs). When PAHs are present in carbon black (measured as the cyclohexane-extractable fraction) NIOSH has established a REL-TWA of 0.1 mg/m³ and considers the material to be an occupational carcinogen.

The NIOSH REL-TWA was "selected on the basis of professional judgement rather than on data delineating safe from unsafe concentrations of PAHs".

This limit was justified on the basis of feasibility of measurement and not on a demonstration of its safety.

NOTE: This substance has been classified by the ACGIH as A4 NOT classifiable as causing Cancer in humans. for carbon blacks of mineral origin

TLV TWA: 3.5 mg/m³ A4

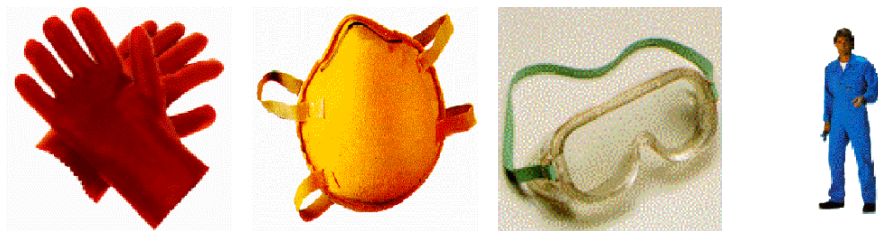
ES TWA: 3 mg/m³

Carbon blacks of vegetable origin not listed.

WATER:

‡ No exposure limits set by NOHSC or ACGIH.

PERSONAL PROTECTION



EYE

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

- Wear chemical protective gloves, eg. PVC.
- Wear safety footwear or safety gumboots, eg. Rubber.

OTHER

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.
- Eye wash unit.

RESPIRATOR

Protection Factor	Half- Face Respirator	Full- Face Respirator	Powered Air Respirator
10 x ES	P1 Air- line*	- -	PAPR- P1 -
50 x ES	Air- line**	P2	PAPR- P2
100 x ES	-	P3	-
		Air- line*	-
100+ x ES	-	Air- line**	PAPR- P3

* - Negative pressure demand ** - Continuous flow.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.

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- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered.

Such protection might consist of:

- (a): particle dust respirators, if necessary, combined with an absorption cartridge;
- (b): filter respirators with absorption cartridge or canister of the right type;
- (c): fresh-air hoods or masks.

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:

direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)

grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).

Air Speed:

1- 2.5 m/s (200- 500 f/min.)

2.5- 10 m/s (500- 2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range

- 1: Room air currents minimal or favourable to capture
- 2: Contaminants of low toxicity or of nuisance value only.
- 3: Intermittent, low production.
- 4: Large hood or large air mass in motion

Upper end of the range

- 1: Disturbing room air currents
- 2: Contaminants of high toxicity
- 3: High production, heavy use
- 4: Small hood- local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 4-10 m/s (800-2000 f/min) for extraction of crusher dusts generated 2 metres distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Black crystalline sand-like granules; insoluble in water.

PHYSICAL PROPERTIES

Does not mix with water.

State

Divided Solid

Molecular Weight

Not Applicable

continued...

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Melting Range (°F)	Not Available	Viscosity	Not Applicable
Boiling Range (°F)	Not Applicable	Solubility in water (g/L)	Immiscible
Flash Point (°F)	Not Applicable	pH (1% solution)	Not Applicable
Decomposition Temp (°F)	Not Available	pH (as supplied)	Not Applicable
Autoignition Temp (°F)	Not Applicable	Vapour Pressure (mmHG)	Not Applicable
Upper Explosive Limit (%)	Not Applicable	Specific Gravity (water=1)	Not Available
Lower Explosive Limit (%)	Not Applicable	Relative Vapour Density (air=1)	Not Applicable
Volatile Component (%vol)	Not Applicable	Evaporation Rate	Not Applicable

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

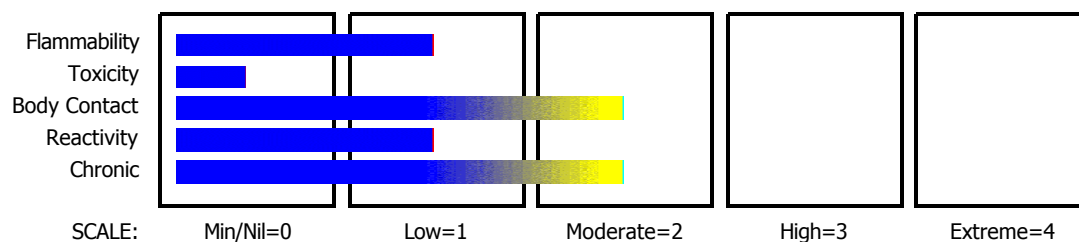
CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

CHEMWATCH HAZARD RATINGS



POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

‡ The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (eg. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

EYE

‡ There is some evidence to suggest that this material can cause eye irritation and damage in some persons.

SKIN

‡ The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

‡ Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury

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Section 11 - TOXICOLOGICAL INFORMATION

with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

‡ There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

‡ Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.

CHRONIC HEALTH EFFECTS

‡ Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Prime symptom is breathlessness; lung shadows show on X-ray.

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.

TOXICITY AND IRRITATION

‡ Not available. Refer to individual constituents.

ZEOLITES:

‡ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (rat) LD50: >5110 mg/kg
 Dermal (rabbit) LD50: >2000 mg/kg
 Inhalation (-) LC50: >18.3 mg/l/1hr
 for sodium aluminosilicate, zeolite A:

IRRITATION

Skin (rabbit): non- irritating
 Eye (rabbit): slight

[Grace]

CARBON, STEAM ACTIVATED - NOT REGULATED:

‡ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

‡ No data of toxicological significance identified in literature search.

WATER:

‡ No significant acute toxicological data identified in literature search.

CARCINOGEN

Zeolites other than erionite (clinoptilolite, phillipsite, mordenite, non- fibrous Japanese zeolite, synthetic zeolites)

International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs

Group

3

Carbon black	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	2B
Carbon black	US ACGIH Threshold Limit Values (TLV) - Carcinogens	Carcinogen Category	A4
CARBON BLACK	US Environmental Defense Scorecard Recognized Carcinogens	Reference(s)	P65
CARBON BLACK	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	P65
Carbon black	US NIOSH Recommended Exposure Limits (RELs) - Carcinogens	Carcinogen	Ca

Section 12 - ECOLOGICAL INFORMATION

Refer to data for ingredients, which follows:

ZEOLITES:

CARBON, STEAM ACTIVATED - NOT REGULATED:

AMMO-CARB:

! DO NOT discharge into sewer or waterways.

AMMO-CARB:

ZEOLITES:

! Metal-containing inorganic substances generally have negligible vapour pressure and are not expected to partition to air. Once released to surface waters and moist soils their fate depends on solubility and dissociation in water. Environmental processes (such as oxidation and the presence of acids or bases) may transform insoluble metals to more soluble ionic forms. Microbiological processes may also transform insoluble metals to more soluble forms. Such ionic species may bind to dissolved ligands or sorb to solid particles in aquatic or aqueous media. A significant proportion of dissolved/ sorbed metals will end up in sediments through the settling of suspended particles. The remaining metal ions can then be taken up by aquatic organisms.

When released to dry soil most metals will exhibit limited mobility and remain in the upper layer; some will leach locally into ground water and/ or surface water ecosystems when soaked by rain or melt ice.

Environmental processes may also be important in changing solubilities.

Even though many metals show few toxic effects at physiological pHs, transformation may introduce new or magnified effects.

A metal ion is considered infinitely persistent because it cannot degrade further.

The current state of science does not allow for an unambiguous interpretation of various measures of bioaccumulation.

The counter-ion may also create health and environmental concerns once isolated from the metal. Under normal physiological conditions the counter-ion may be essentially insoluble and may not be bioavailable.

Environmental processes may enhance bioavailability.

! For zeolites:

The environmental exposure assessments for detergent-based zeolites were conducted using the HERA detergent scenario (HERA, 2004). The PNEC values used in the risk assessment were derived from the most conservative

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Section 12 - ECOLOGICAL INFORMATION

reliable NOEC values available in the study.

These long-term ecotoxicity data have confirmed the anticipation that the ecological behaviour of the zeolite types used in detergents is very similar. The risk characterisation ratios based upon the discussed exposure and effects data show RCR values < 1 and, hence, do not indicate a risk for any of the environmental compartments, i.e. water, sediment, soil and sewage treatment plants (STP).

The favourable outcome of this environmental risk assessment provides a sound basis for the conclusion that the use of zeolites in detergent products does not pose a risk to the environment.

Supplement to the HERA Report on the Environmental Assessment of Zeolite A; September 2005

Ecotoxicity:

for sodium aluminosilicate, zeolite A

Fish toxicity LC50 (96 h): Brachidario rerio 1800 mg/l

Daphnia magna EC50 (48 h): 2808 mg/l

Algal toxicity NOEC (96 h): Scenedesmus subspecies 10 mg/l

Bacterial toxicity (Pseudomonas putida): 330 mg/l, initial inhibition of cell multiplication [Source - Grace].

CARBON, STEAM ACTIVATED - NOT REGULATED:

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
water	LOW		LOW	HIGH

Section 13 - DISPOSAL CONSIDERATIONS

- Recycle where possible
- Otherwise ensure that:
- licenced contractors dispose of the product and its container.
- disposal occurs at a licenced facility.

Section 14 - TRANSPORTATION INFORMATION

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: DOT, IATA, IMDG

Section 15 - REGULATORY INFORMATION

REGULATIONS

Regulations for ingredients

zeolites (CAS: 1318-02-1, 37305-72-9, 50809-51-3, 52349-29-8, 53025-48-2, 53060-43-8, 53569-61-2, 53789-62-1, 54693-40-2, 54824-24-7, 56747-83-2, 61710-45-0, 75216-11-4, 76774-74-8, 85117-23-3) is found on the following regulatory lists;

"International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals", "US Cosmetic Ingredient Review (CIR) Cosmetic ingredients found safe as used"

carbon, steam activated - not regulated (CAS: 7440-44-0) is found on the following regulatory lists;

"Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances", "Canada Domestic Substances List (DSL)", "Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (English)", "Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (French)", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Air Transport Association (IATA) Dangerous Goods

continued...

AMMO-CARB

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Regulations - Prohibited List", "OECD Representative List of High Production Volume (HPV) Chemicals", "US - Idaho - Toxic and Hazardous Substances - Mineral Dust", "US - Minnesota Hazardous Substance List", "US - Minnesota Permissible Exposure Limits (PELs)", "US - Pennsylvania - Hazardous Substance List", "US - Rhode Island Hazardous Substance List", "US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants", "US DOE Temporary Emergency Exposure Limits (TEELs)", "US EPA High Production Volume Program Chemical List", "US FDA CFSAN Color Additive Status List 4", "US FDA CFSAN Color Additive Status List 6", "US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide", "US Toxic Substances Control Act (TSCA) - Inventory", "US TSCA Section 8 (a) Inventory Update Rule (IUR) - Partial Exemptions"

water (CAS: 7732-18-5) is found on the following regulatory lists;

"Canada Domestic Substances List (DSL)", "Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (English)", "Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (French)", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "OECD Representative List of High Production Volume (HPV) Chemicals", "US - Pennsylvania - Hazardous Substance List", "US DOE Temporary Emergency Exposure Limits (TEELs)", "US NFPA 30B Manufacture and Storage of Aerosol Products - Chemical Heat of Combustion", "US Toxic Substances Control Act (TSCA) - Inventory", "US TSCA Section 8 (a) Inventory Update Rule (IUR) - Partial Exemptions"

No data for Ammo-Carb (CW: 4658-39)

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Table with 2 columns: Ingredient Name, CAS. Row 1: zeolites, 1318- 02- 1, 37305- 72- 9, 50809- 51- 3, 52349- 29- 8, 53025- 48- 2, 53060- 43- 8, 53569- 61- 2, 53789- 62- 1, 54693- 40- 2, 54824- 24- 7, 56747- 83- 2, 61710- 45- 0, 75216- 11- 4, 76774- 74- 8, 85117- 23- 3

EXPOSURE STANDARD FOR MIXTURES

- ! "Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration:
! Composite Exposure Standard for Mixture (TWA) :3.7221 mg/m³.
! Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone.

If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed.

Component Breathing Zone ppm Breathing Zone mg/m3 Mixture Conc (%)

Table with 3 columns: Component, Breathing zone (ppm), Breathing zone (mg/m3). Row 1: Mixture Conc (%), carbon, steam activated - not reg. Row 2: 2.9777, 20.0

CONTACT

Mars Fishcare

! Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at: www.chemwatch.net/references.

! The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

! For detailed advice on Personal Protective Equipment, refer to the following U.S. Regulations and Standards:

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Section 16 - OTHER INFORMATION

OSHA Standards - 29 CFR:

1910.132 - Personal Protective Equipment - General requirements

1910.133 - Eye and face protection

1910.134 - Respiratory Protection

1910.136 - Occupational foot protection

1910.138 - Hand Protection

Eye and face protection - ANSI Z87.1

Foot protection - ANSI Z41

Respirators must be NIOSH approved.

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