Conforms to ANSI Z400.5-2004 Standard (United States, Canada).

Material Safety Data Sheet

PUNCH

1 . Product and company identification

Product name : PUNCH

Material uses : Floor stripper concentrate, dilutable 1:8;1:16;1:32

Supplier/Manufacturer : V-TO Inc.
2975, Nelson
Saint-Hyacinthe
QC J2S 1Y5
Tél: (450) 774-6849
Fax:(450) 774-4334

Responsible name : Atrion Regulatory Services, Inc.

In case of emergency : CANUTEC (613) 996-6666 (Canada)

2 . Hazards identification

Physical state : Liquid. [Clear.]

Odor : Ammoniacal.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview : WARNING!

HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CAN CAUSE TARGET ORGAN DAMAGE.

Do not breathe vapor or mist. Do not ingest. Do not get in eyes. Avoid contact with skin and clothing. Can cause target organ damage. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : Harmful by inhalation. (As is, in concentrated form). Irritating to respiratory system.

Ingestion : May be harmful if swallowed.

Skin : Irritating to skin. May be harmful in contact with skin.

Eyes : Severely irritating to eyes. Risk of serious damage to eyes.

Potential chronic health effects

Chronic effects : Can cause target organ damage.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : Contains material which causes damage to the following organs: central nervous system (CNS).
May cause damage to the following organs: kidneys, liver, upper respiratory tract.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

2 . Hazards identification

Ingestion : No specific data.

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

3 . Composition/information on ingredients

United States

Name	CAS number	%
2-Aminoethanol	141-43-5	10 - 30
Benzyl alcohol	100-51-6	10 - 30
Ethylene oxide-nonylphenol polymer	9016-45-9	1 - 5
Ethylenediamine tetraacetic acid	60-00-4	1 - 5
2-(2-Methoxyethoxy)ethanol	111-77-3	1 - 5

Canada

Name	CAS number	%
2-Aminoethanol	141-43-5	10 - 30
Benzyl alcohol	100-51-6	10 - 30
Ethylene oxide-nonylphenol polymer	9016-45-9	1 - 5
Ethylenediamine tetraacetic acid	60-00-4	1 - 5
2-(2-Methoxyethoxy)ethanol	111-77-3	1 - 5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

Eye contact : Check for and remove any contact lenses. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Get medical attention.

Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention.

Ingestion : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4 . First aid measures

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5 . Fire-fighting measures

Flammability of the product : May be combustible at high temperature.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

Handling : Do not ingest. Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Avoid breathing vapor or mist of concentrated form. Wash thoroughly after handling.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

United States

Product name	Exposure limits
2-Aminoethanol	**ACGIH TLV (United States, 1/2006).** STEL: 15 mg/m³ 15 minute(s). TWA: 7.5 mg/m³ 8 hour(s). **NIOSH REL (United States, 12/2001).** STEL: 15 mg/m³ 15 minute(s). TWA: 8 mg/m³ 10 hour(s). **OSHA PEL (United States, 11/2006).** TWA: 6 mg/m³ 8 hour(s).
Benzyl alcohol	**AIHA WEEL (United States, 1/2006).** TWA: 10 ppm 8 hour(s).

Canada

Product name	Exposure limits
2-Aminoethanol	**ACGIH TLV (United States, 1/2006).** STEL: 15 mg/m³ 15 minute(s). TWA: 7.5 mg/m³ 8 hour(s).

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Safety glasses.

Skin : Lab coat.

Respiratory : Vapor respirator.

Hands : Natural rubber (latex).

Personal protective equipment (Pictograms) :

HMIS Code/Personal protective equipment : G

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid. [Clear.]
Flash point : Closed cup: >93°C (>199.4°F) [Tagliabue.]
Color : Blue.
Odor : Ammoniacal.
pH : 11.2
Boiling/condensation point : >100°C (>212°F)
Relative density : 1.04
Volatility : 93% (w/w)
Evaporation rate : <1 (Butyl acetate. = 1)
VOC : 93 (%)

10 . Stability and reactivity

Stability : The product is stable.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid : No specific data.
Materials to avoid : No specific data.
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Species	Dose	Result	Exposure
2-Aminoethanol	Rabbit	1 mL/kg	LD50 Dermal	-
	Rat	225 mg/kg	LD50 Intravenous	-
	Rat	1720 mg/kg	LD50 Oral	-
Benzyl alcohol	Rabbit	2000 mg/kg	LD50 Dermal	-
	Rat	441 mg/kg	LD50 Intra-arterial	-
	Rat	400 mg/kg	LD50 Intraperitoneal	-
	Rat	53 mg/kg	LD50 Intravenous	-
	Rat	1230 mg/kg	LD50 Oral	-
	Rat	1.5 mL/kg	LD50 Oral	-
	Rat	1660 mg/kg	LD50 Oral	-
Ethylenediamine tetraacetic acid	Rat	512.9 mg/kg	LD50 Intraperitoneal	-
	Rat	397 mg/kg	LD50 Intraperitoneal	-
2-(2-Methoxyethoxy)ethanol	Rabbit	2500 uL/kg	LD50 Dermal	-
	Rat	2722 mg/kg	LD50 Intraperitoneal	-
	Rat	4 mL/kg	LD50 Oral	-

Inhalation : Harmful by inhalation. (As is, in concentrated form). Irritating to respiratory system.
Ingestion : May be harmful if swallowed.
Skin : Irritating to skin. May be harmful in contact with skin.
Eyes : Severely irritating to eyes. Risk of serious damage to eyes.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Test	Species	Exposure	Result
2-Aminoethanol	Mortality	Fish	96 hours	Acute LC50 2070 mg/L
	Mortality	Fish	96 hours	Acute LC50 329.16 mg/L
	Mortality	Fish	96 hours	Acute LC50 >300 mg/L
	Mortality	Fish	96 hours	Acute LC50 300 mg/L
	Mortality	Fish	96 hours	Acute LC50 >200 mg/L
	Mortality	Fish	96 hours	Acute LC50 150 mg/L
Benzyl alcohol	Mortality	Fish	96 hours	Acute LC50 460 mg/L
	Mortality	Fish	96 hours	Acute LC50 10 mg/L
Ethylenediamine tetraacetic acid	Intoxication	Daphnia	48 hours	Acute EC50 113 mg/L
	Mortality	Fish	96 hours	Acute LC50 159 mg/L
	Mortality	Fish	96 hours	Acute LC50 532 mg/L
	Mortality	Fish	96 hours	Acute LC50 59.8 mg/L
	Mortality	Fish	96 hours	Acute LC50 41 mg/L
2-(2-Methoxyethoxy)ethanol	Mortality	Fish	96 hours	Acute LC50 7500 mg/L

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information

DOT/ TDG / IMDG/ IATA : Not regulated.

15 . Regulatory information

United States

HCS Classification : Toxic material
Irritating material
Target organ effects

U.S. Federal regulations : TSCA 8(a) PAIR: Ethylene oxide-nonylphenol polymer
United States inventory (TSCA 8b): All components are listed or exempted.

15 . Regulatory information

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: 2-Aminoethanol; Benzyl alcohol; Ethylenediamine tetraacetic acid; 2-(2-Methoxyethoxy)ethanol
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: 2-Aminoethanol: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Benzyl alcohol: Immediate (acute) health hazard, Delayed (chronic) health hazard; Ethylenediamine tetraacetic acid: Immediate (acute) health hazard, Delayed (chronic) health hazard; 2-(2-Methoxyethoxy)ethanol: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: Ethylenediamine tetraacetic acid

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

SARA 313

		Product name	CAS number	Concentration
Form R - Reporting requirements	:	2-(2-Methoxyethoxy)ethanol	111-77-3	1 - 5
Supplier notification	:	2-(2-Methoxyethoxy)ethanol	111-77-3	1 - 5

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations :

Connecticut Carcinogen Reporting: None of the components are listed.
Connecticut Hazardous Material Survey: None of the components are listed.
Florida substances: None of the components are listed.
Illinois Chemical Safety Act: None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
Louisiana Reporting: None of the components are listed.
Louisiana Spill: None of the components are listed.
Massachusetts Spill: None of the components are listed.
Massachusetts Substances: The following components are listed: 2-Aminoethanol; Benzyl alcohol; Ethylenediamine tetraacetic acid;2-(2-Methoxyethoxy)ethanol
Michigan Critical Material: None of the components are listed.
Minnesota Hazardous Substances: None of the components are listed.
New Jersey Hazardous Substances: The following components are listed: 2-Aminoethanol; Benzyl alcohol; Ethylenediamine tetraacetic acid;2-(2-Methoxyethoxy)ethanol
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
New York Acutely Hazardous Substances: The following components are listed: Ethylenediamine tetraacetic acid
New York Toxic Chemical Release Reporting: None of the components are listed.
Pennsylvania RTK Hazardous Substances: The following components are listed: 2-Aminoethanol; Benzyl alcohol; Ethylenediamine tetraacetic acid;2-(2-Methoxyethoxy)ethanol
Rhode Island Hazardous Substances: None of the components are listed.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

15 . Regulatory information

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
2-(2-Methoxyethoxy)ethanol	No.	Yes.	No.	No.

Canada

WHMIS (Canada) : Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists : **CEPA Toxic substances**: None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: None of the components are listed.
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

Canada inventory : **Canada inventory:** All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

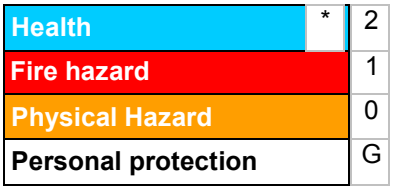
International regulations

International lists : This product, (and its ingredients) is (are) listed on national inventories, or is (are) exempted from being listed, in Australia (AICS), in Europe (EINECS/ELINCS), in Korea (TCCL), in Japan (METI), in the Philippines (RA6969).

16 . Other information

Label requirements : HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CAN CAUSE TARGET ORGAN DAMAGE.

Hazardous Material Information System (U.S.A.) :



HAZARD RATINGS

4- Extreme
3- Serious
2- Moderate
1- Slight
0- Minimal
See section 8 for more detailed information on personal protection.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :

References : ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. - Canada Gazette Part II, Vol. 122, No. 2. Registration SOR/88-64, 31 December 1987. Hazardous Products Act "Ingredient Disclosure List" - Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2005.

16 . Other information

Date of issue : 10/15/2007
Date of previous issue : 03/31/2005
Version : 2

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.