

Issue date 10/28/2016

Reviewed on 10/28/2016

10000 4410 10,20,2010	1101101104 011 10/20/2010
1 Identification	
· Product Identifier	
 Trade name: NuKlean Reflow Oven Cleaner EV3 Product Number: ng-NKROCEV3 Relevant identified uses of the substance or mixture and uses advise Cleaning solution for burnt-un flux residues from wave soldering machine use on Aluminum, Brass, Bronze or galvanized surfaces. Product Description Cleaning solution for burnt-on flux residues from wave soldering machines on pallets, baffles, heating elements, clamps, chains, drive gears & housin Application of the substance / the mixture: Industry-specific application 	es and reflow ovens. Not for s and reflow ovens. Effective igs.
 Details of the Supplier of the Safety Data Sheet: Manufacturer/Supplier: NuGeneration Technologies, LLC (dba NuGenTec) 1155 Park Avenue, Emeryville, CA 94608 salesteam@nugentec.com 1-888-996-8436 or 1-707-820-4080 for product information Emergency telephone number: PERS Emergency Response: Domestic and Canada - 1-800-633-8253, In 	www.nugentec.com ternational 1-801-629-0667
2 Hazard(s) Identification	
· Classification of the substance or mixture:	
GHS05 Corrosion Skin Corr. 1B H314 Causes severe skin burns and eye damage.	
Eye Dam. 1 H318 Causes serious eye damage.	
 Label elements: GHS label elements The product is classified and labeled according to the Globally Harmonized Hazard pictograms: GHS05 	d System (GHS).
· Signal word: Danger	
Hazard-determining components of labeling: Proprietary Solvent 3 Hazard statements:	
H314 Causes severe skin burns and eye damage. • Precautionary statements: P260 Do not breathe dusts or mists.	
H314 Causes severe skin burns and eye damage.Precautionary statements:P260Do not breathe dusts or mists.P280Wear eye protection / face protection.	
H314 Causes severe skin burns and eye damage. • Precautionary statements: P260 Do not breathe dusts or mists.	(Contd. on page 2)



OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 10/28/2016

Trade name: NuKlean Reflow Oven Cleaner EV3

Reviewed on 10/28/2016

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER/doctor. P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet). P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P363 Wash contaminated clothing before reuse. P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting. P405 Store locked up. P501 Dispose of contents/container in accordance with local/regional/national/ international regulations. · Unknown acute toxicity: This value refers to knowledge of known, established toxicological or ecotoxicological values. · Classification system: NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme • NFPA ratings (scale 0 - 4) Health = 1Fire = 0Reactivity = 0· HMIS-ratings (scale 0 - 4) HEALTH 1 Health = 1FIRE 0 Fire = 0Reactivity = 0REACTIVITY 0

· Hazard(s) not otherwise classified (HNOC): None known

 Non-hazardous compo 	nents:	
7732-18-5 Water, distille	ed water, deionized water	<i>≥</i> 85%
Chemical characterizat Description: Mixture of	t ion: Mixtures substances listed below with non-hazardous additions.	
· Dangerous Componen	ts:	
Proprietary Solvent 3	📀 Skin Corr. 1B, H314; Flam. Liq. 4, H227	5-10%
Proprietary Solvent 2	♦ Eye Irrit. 2A, H319; Flam. Liq. 4, H227	2-12%
Proprietary Solvent 4	♦ Acute Tox. 4, H302; Acute Tox. 4, H332	2-12%
Proprietary Solvent 5	🚸 Flam. Liq. 2, H225; 🚸 Eye Irrit. 2A, H319; STOT SE 3, H336	≤2.5%
	: of the ingredients of this mixture are considered to be proprietar with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1	

(Contd. on page 3)



OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 10/28/2016

Reviewed on 10/28/2016

Trade name: NuKlean Reflow Oven Cleaner EV3

4 First-Aid Measures

- · Description of first aid measures:
- · General information: Immediately remove any clothing soiled by the product.
- · After inhalation:

Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.

· After skin contact:

Immediately wash with water and soap and rinse thoroughly. If skin irritation occurs, consult a doctor.

· After eye contact:

Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. If easy to do so, remove contact lenses if worn. Seek immediate medical advice.

· After swallowing:

Rinse out mouth and then drink plenty of water. Do not induce vomiting without medical advice. If vomiting does occur, repeat fluid administration Seek immediate medical advice.

- · Information for doctor:
- *Most important symptoms and effects, both acute and delayed:* No further relevant information available.
- Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-Fighting Measures

- · Extinguishing media:
- Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. • For safety reasons unsuitable extinguishing agents: Water with full jet

- · Special hazards arising from the substance or mixture: No further relevant information available.
- · Advice for firefighters:
- · Protective equipment:
- Mouth respiratory protective device.

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6 Accidental Release Measures

· Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation.

Wear protective clothing.

Avoid contact with skin, eyes and clothing.

Keep people at a distance and stay upwind.

Wear protective equipment. Keep unprotected persons away.

(Contd. on page 4)





OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 10/28/2016

Reviewed on 10/28/2016

Environmental precautions:	
Dilute with plenty of water.	
Do not allow to enter sewers/surface or ground water.	
• Methods and material for containment and cleaning up:	
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders,	universal binders, sawdust).
Use neutralizing agent.	
Dispose contaminated material as waste according to section 13. Ensure adequate ventilation.	
Dispose of the collected material according to regulations.	
· Reference to other sections:	
See Section 7 for information on safe handling.	
See Section 8 for information on personal protection equipment.	
See Section 13 for disposal information.	
 Protective Action Criteria for Chemicals 	
· PAC-1:	
• PAC-1: Proprietary Solvent 2	30 ppm
	30 ppm 30 ppm
Proprietary Solvent 2	
Proprietary Solvent 2 Proprietary Solvent 4 Proprietary Solvent 5	30 ppm
Proprietary Solvent 2 Proprietary Solvent 4 Proprietary Solvent 5	30 ppm
Proprietary Solvent 2 Proprietary Solvent 4 Proprietary Solvent 5 • PAC-2:	30 ppm 400 ppr
Proprietary Solvent 2 Proprietary Solvent 4 Proprietary Solvent 5 • PAC-2: Proprietary Solvent 2	30 ppm 400 ppr 33 ppm
Proprietary Solvent 2 Proprietary Solvent 4 Proprietary Solvent 5 • PAC-2: Proprietary Solvent 2 Proprietary Solvent 4	30 ppm 400 ppr 33 ppm 52 ppm
Proprietary Solvent 2 Proprietary Solvent 4 Proprietary Solvent 5 • PAC-2: Proprietary Solvent 2 Proprietary Solvent 4 Proprietary Solvent 5	30 ppm 400 ppr 33 ppm 52 ppm
Proprietary Solvent 2 Proprietary Solvent 4 Proprietary Solvent 5 • PAC-2: Proprietary Solvent 2 Proprietary Solvent 4 Proprietary Solvent 5 • PAC-3:	30 ppm 400 ppr 33 ppm 52 ppm 2000* ppr

7 Handling and Storage

· Handling

· Precautions for safe handling:

Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols.

· Information about protection against explosions and fires: No special measures required.

Conditions for safe storage, including any incompatibilities:

Store away from strong acids, strong bases, strong oxidizing agents and strong reducing agents. Prevent contact with Aluminum, Brass, Bronze and galvanized surfaces.

· Storage

• Requirements to be met by storerooms and receptacles: No special requirements.

- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed.
- **Specific end use(s):** No further relevant information available.

(Contd. on page 5)



OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 10/28/2016

Reviewed on 10/28/2016

Trade name: NuKlean Reflow Oven Cleaner EV3

8 Exposure Controls/Personal Protection

• Additional information about design of technical systems: No further data; see section 7.

· Control parameters:

All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

· Components with occupational exposure limits:

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

Propri	etary Solvent 2
TLV	Long-term value: 67.5* mg/m³, 10* ppm *Inhalable fraction and vapor
Propri	etary Solvent 4
WEEL	Long-term value: 10 ppm
Propri	etary Solvent 5
PEL	Long-term value: 980 mg/m³, 400 ppm
REL	Short-term value: 1225 mg/m³, 500 ppm Long-term value: 980 mg/m³, 400 ppm
TLV	Short-term value: 984 mg/m³, 400 ppm Long-term value: 492 mg/m³, 200 ppm BEI
Ingred	ients with biological limit values:
Propri	etary Solvent 5
Ad	nd of shift at end of workweek cetone (background, nonspecific) onal information: The lists that were valid during the creation of this SDS were used as basis.
Person Genera The us Keep a Immed Wash I Avoid c Breath	ure controls: nal protective equipment: al protective and hygienic measures: ual precautionary measures for handling chemicals should be followed. way from foodstuffs, beverages and feed. liately remove all soiled and contaminated clothing and wash before reuse. hands before breaks and at the end of work. contact with the eyes and skin. hing equipment: Not required. hands:
M 2	Protective gloves
	(Contd. on page

(Contd. on page 6)



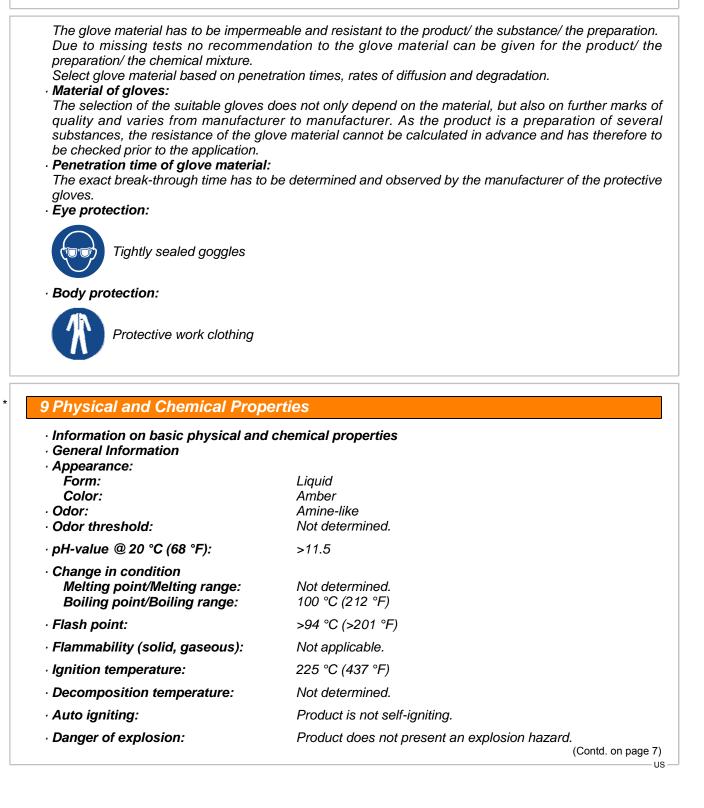


OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 10/28/2016

Reviewed on 10/28/2016

Trade name: NuKlean Reflow Oven Cleaner EV3





OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 10/28/2016

Reviewed on 10/28/2016

Trade name: NuKlean Reflow Oven Cleaner EV3		
· Explosion limits: Lower: Upper:	Not determined. Not determined.	
· Vapor pressure @ 20 °C (68 °F):	23 hPa (17 mm Hg)	
 Density @ 20 °C (68 °F): Relative density: Vapor density: Evaporation rate: 	1.048 g/cm ³ (8.746 lbs/gal) Not determined. Not determined. Not determined.	
 Solubility in / Miscibility with: Water: 	Fully miscible.	
· Partition coefficient (n-octanol/water)	: Not determined.	
 Viscosity: Dynamic: Kinematic: 	Not determined. Not determined.	
 Solvent content: Organic solvents: Water: VOC content: Other information: 	9.0 % 80.9 % 9.0 % No further relevant information available.	

10 Stability and Reactivity

- · Reactivity: No further relevant information available.
- · Chemical stability: Stable under normal conditions.
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- · Conditions to avoid: No further relevant information available.
- · Incompatible materials: Aluminum, Brass, Bronze and galvanized surfaces.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological Information

- · Information on toxicological effects:
- · Acute toxicity:

Proprieta	ary Solvent	3	
Oral	LD50	2098 mg/kg (Rat)	
Dermal	LD50	1640 mg/kg (Rabbit)	
Proprieta	ary Solvent	2	
Oral	LD50	5660 mg/kg (Rat)	
Dermal	LD50	4000 mg/kg (Rabbit)	
	1	I	(Contd. on page 8)



Issue date 10/28/2016

Reviewed on 10/28/2016

Proprieta	ry Solvent 4		
Oral	LD50	1230 mg/kg (Rat)	
Dermal	LD50	2000 mg/kg (Rabbit)	
Proprieta	ry Solvent 5	1	
Oral	LD50	5045 mg/kg (Rat)	
Dermal	LD50	12800 mg/kg (Rabbit)	
Inhalative	LC50/4 h	30 mg/l (Rat)	
	LC50/96 hours	9640 mg/l (Pimephales)	
 Additiona The prod. preparatic Corrosive Irritant Swallowin esophagu Carcinog IARC (Integration of the second of the second	ns: ng will lead to a s and stomach. enic categories ernational Ager Carcinogenic to - Probably carcin - Possibly carcir	information: ollowing dangers according to internally approved calculation method corrosive effect on mouth and throat and to the danger of perforations: corrosive according to internal throat and to the danger of perforations: corrosive Research on Cancer):	
Group 2B Group 3 -			
Group 2B Group 3 - Group 4 -		rcinogenic to humans	
Group 2B Group 3 - Group 4 - Proprietar	Probably not car	rcinogenic to humans	
Group 2B Group 3 - Group 4 - Proprietar	Probably not cai y Solvent 5	rcinogenic to humans y Program):	
Group 2B Group 3 - Group 4 - Proprietar • NTP (Nat None of th	Probably not car y Solvent 5 ional Toxicolog ne ingredients ar	rcinogenic to humans y Program):	
Group 2B Group 3 - Group 4 - Proprietar • NTP (Nati None of th • OSHA-Ca	Probably not car y Solvent 5 ional Toxicolog ne ingredients ar	rcinogenic to humans y Program): e listed. Safety & Health Administration):	

Aquatic toxicity:

Proprietary Solvent 3 EC50 108.8 mg/l (Daphnia)

Proprietary Solvent 5

EC50 6851 mg/l (Green algae)

5102 mg/l (Water flea)

(Contd. on page 9)



OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 10/28/2016

Reviewed on 10/28/2016

Trade name: NuKlean Reflow Oven Cleaner EV3

- · Persistence and degradability: No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential: No further relevant information available.
- · Mobility in soil: No further relevant information available.
- · Additional ecological information:
- · General notes:

Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

- · Results of PBT and vPvB assessment:
- · PBT: Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects: No further relevant information available.

13 Disposal Considerations

- · Waste treatment methods:
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Observe all federal, state and local environmental regulations when disposing of this material.

- · Uncleaned packagings
- · Recommendation:
- Dispose of as unused product.

Disposal must be made according to official regulations.

· Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport Information

- · UN-Number:
- · DOT, ADR, IMDG, IATA
- · UN proper shipping name:
- · DOT
- · ADR
- · IMDG, IATA
- Transport hazard class(es):
- · DOT



· Class:

UN2735

Amines, liquid, corrosive, n.o.s. UN2735 Amines, liquid, corrosive, n.o.s. AMINES, LIQUID, CORROSIVE, N.O.S.

8 Corrosive substances

(Contd. on page 10)

US



Issue date 10/28/2016

Reviewed on 10/28/2016

Label:	8
ADR	
with the second	
8	
Class:	8 (C7) Corrosive substances
Label:	8
IMDG, IATA	
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
*	
Class: Label:	8 Corrosive substances 8
Packing group:	0
DOT, ADR, IMDG, IATA	///
Environmental hazards:	Not applicable.
Special precautions for user:	Warning: Corrosive substances
Danger code (Kemler):	80
EMS Number:	F-A,S-B
Segregation groups:	Alkalis
Stowage Category	A
Transport in bulk according to Anne. MARPOL73/78 and the IBC Code:	Not applicable.
Transport/Additional information:	
ADR	
Excepted quantities (EQ):	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
UN "Model Regulation":	UN 2735 AMINES, LÍQUID, CORROSIVE, N.O.S., 8, II

· Safety, health and environmental regulations/legislation specific for the substance or mixture: · SARA (Superfund Amendments and Reauthorization):

- · Section 355 (extremely hazardous substances):
- None of the ingredients are listed.
- · Section 313 (Specific toxic chemical listings):
- **Proprietary Solvent 2**
- Proprietary Solvent 5
- · TSCA (Toxic Substances Control Act):
- All ingredients are listed or exempt from listing.

(Contd. on page 11)

US



Issue date 10/28/2016

Reviewed on 10/28/2016

Chemicals known to cause cancer:None of the ingredients are listed.	
None of the ingredients are listed.	
• Chemicals known to cause reproductive toxicity for females:	
None of the ingredients are listed.	
• Chemicals known to cause reproductive toxicity for males:	
None of the ingredients are listed.	
Chemicals known to cause developmental toxicity:	
None of the ingredients are listed.	
· New Jersey Right-to-Know List:	
Proprietary Solvent 3	
Proprietary Solvent 5	
New Jersey Special Hazardous Substance List:	
Proprietary Solvent 5	F
Pennsylvania Right-to-Know List:	
Proprietary Solvent 3	
Proprietary Solvent 4	
Proprietary Solvent 5	
Pennsylvania Special Hazardous Substance List:	
Proprietary Solvent 5	
· Carcinogenic categories:	
· EPA (Environmental Protection Agency):	
None of the ingredients are listed.	
• TLV (Threshold Limit Value established by ACGIH):	
Proprietary Solvent 5	A
NIOSH-Ca (National Institute for Occupational Safety and Health):	
None of the ingredients are listed.	
• GHS label elements The product is classified and labeled according to the Globally Harmonize • Hazard pictograms:	ed System (GHS).
GHS05	
Signal word: Danger	
• Hazard-determining components of labeling: Proprietary Solvent 3	
• Hazard statements: H314 Causes severe skin burns and eye damage.	

(Contd. on page 12)

US





OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 10/28/2016

Reviewed on 10/28/2016

Trade name: NuKlean Reflow Oven Cleaner EV3

Precautionary sta	ntements:
P260	Do not breathe dusts or mists.
P280	Wear eye protection / face protection.
P264	Wash thoroughly after handling.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P321	Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P363	Wash contaminated clothing before reuse.
P301+P330+P331	If swallowed: Rinse mouth. Do NOT induce vomiting.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/ international regulations.
National regulation	ons:

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## 16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· Date of preparation / last revision: 10/28/2016 / -• Abbreviations and acronyms: ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association ACGIH: American Conference of Governmental Industrial Hygienists EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, ÉU) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety and Health OSHA: Occupational Safety & Health Administration TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEI: Biological Exposure Limit (Contd. on page 13)



OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 10/28/2016

Reviewed on 10/28/2016

Page 13/13

Trade name: NuKlean Reflow Oven Cleaner EV3

Flam. Liq. 2: Flammable liquids – Category 2 Flam. Liq. 4: Flammable liquids – Category 4 Acute Tox. 4: Acute toxicity – Category 4 Skin Corr. 1B: Skin corrosion/irritation – Category 1B Eye Dam. 1: Serious eye damage/eye irritation – Category 1 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A STOT SE 3: Specific target organ toxicity (single exposure) – Category 3 • * **Data compared to the previous version altered.** SDS created by MSDS Authoring Services www.msdsauthoring.com +1-877-204-9106